

## CHAPTER 4

### MASSACHUSETTS COASTAL ZONE MANAGEMENT PROGRAM POLICIES

A key element of the federal Coastal Zone Management Act and its implementation is the establishment of “enforceable program policies” by participating states. These policies are an expression of a state’s goals and priorities for the management and use of its coastal resources. The term “enforceable” means that the policies derive authority from existing state statutes and regulations. For example, if a state has no statutory or regulatory jurisdiction over wetlands, that state’s coastal zone management program would not have wetlands jurisdiction. If, on the other hand, a state has established wetland jurisdiction through another state agency, the CZM program could have a coastal policy that protects wetlands to the extent of state jurisdiction. An example of the value an enforceable program policy is that, rather than have a policy on wetlands that duplicates other state wetlands protections, a coastal zone management program might have a policy on marine habitat which brings together state jurisdiction on wetlands, water quality, fisheries, coastal hazards, and any other applicable jurisdiction. In this manner, coastal policies can provide a framework for management of coastal resources.

The Massachusetts Coastal Zone Management Program has established enforceable program policies that address natural, cultural, social, and economic resources. CZM engaged in an extensive research and public participation process to establish these policies during its program development phase in 1976 through 1978. In 1996 and 1997 the Massachusetts coastal program undertook a process to review, revise and expand these policies. This chapter presents the revised CZM program policies established in 1997. While this effort incorporated newer scientific data and recent statutory and regulatory changes, the 1996-97 effort did not result in major changes to CZM’s policy statements.

Program policies provide direction to the Massachusetts Coastal Zone Management Program in several ways:

**Federal consistency review:** As described in Chapter 5, the Congress, through the CZMA, gives states the authority to review any project requiring a federal action to ensure that it is consistent with the state’s program policies.

**CZM program implementation:** The many CZM programs and projects described in Chapter 6 are direct outgrowths of the program priorities articulated by CZM’s program policies and serve as non-regulatory approaches to implementing policies.

**Project review:** The Massachusetts Environmental Policy Act (MEPA) offers regulatory agencies and the public opportunities to comment on proposals for projects that require state permits. CZM actively participates in the MEPA review process, recommending ways that proponents can make projects consistent

with state coastal policies.

**Technical assistance:** CZM staff offer technical assistance to municipalities, state and federal agencies, and project proponents. CZM's program policies guide the advice offered, allowing public entities and private developers to plan their activities in manner that is consistent with the state's coastal policies.

All of the activities outlined above give CZM an "on the ground" understanding of the implications of its policies. Based on the experience gained in implementing policy-based programs, CZM reviews and updates its program policies to improve their effectiveness. In addition, CZM conducts an annual review of changes to the underlying statutory and regulatory authorities for its policies and updates those authorities as needed.

As presented below, the policies are organized by major resource, including water quality, habitat, protected areas, coastal hazards, port and harbor infrastructure, public access, energy, and ocean resources. Within each group are one or more policy statements. Each policy statement includes the policy goal, a statement of the issues that make each policy important to the management of the Massachusetts coastal zone and CZM's means of implementing the policy, and a list of the state authorities underlying the policy.

In addition, where there are not existing state authorities to make a policy enforceable, CZM has developed "management principles". These principles are not currently embodied in state law but offer guidance to proponents of projects in the coastal zone of a preferred approach to resource management. Growth management is one such CZM resource management concern that is guided by management principles.

The text of CZM's policies begins on the following page. These policies became effective on March 11, 1997.

## **WATER QUALITY**

It is the intent of the Massachusetts Coastal Zone Management Program to support attainment of state and national water quality goals for all waters of the coastal zone. To implement that intent, CZM has developed the following three water quality policies for point source, non-point source and groundwater discharges.

### **WATER QUALITY POLICY #1 - Ensure that point-source discharges in or affecting the coastal zone are consistent with federally approved state effluent limitations and water quality standards.**

There have been many improvements in surface water quality since the passage of the federal Clean Water Act, particularly in coastal waters, as reported in the *1998 Commonwealth of Massachusetts Summary of Water Quality*. This trend suggests that management of development and abatement of pollution sources have been effective protective measures. According to this report, nine (9) percent of the marine waters assessed do not support their overall designated uses; while 82 percent support their designated uses; and two (2) percent partially support their overall uses. Seven percent of coastal waters were not evaluated.

A surface water quality issue that remains of concern is the intake and discharge of large quantities of cooling water from industrial plants, and particularly from power generating facilities. Withdrawal of cooling water may entrain eggs, fish larvae, or other small marine organisms. The withdrawal of cooling water may also result in the impingement of marine organisms against screening equipment that is installed to protect pumps and condensers from floating debris. Entrainment and impingement can result in death or injury to eggs, larvae, and adult marine organisms. Discharge of heated effluent to a receiving water can adversely affect marine organisms, habitat, and water quality by altering critical water temperatures, dissolved oxygen levels, and salinity.

### **Implementation and Federal Consistency Review**

CZM implements this policy through participation in water quality programs and by review of project proposals that affect coastal water quality. Federal consistency review is carried out in accordance with the state statutes and regulations that are included at the end of this section.

National Pollutant Discharge Elimination System (NPDES): The Federal Water Pollution Control Act of 1972, as amended, (more commonly referred to as the Clean Water Act [CWA]) were passed by Congress in response to a growing national understanding that discharge of pollutants into water bodies was destroying their physical, biological and chemical functions in the environment. The CWA established a framework whereby a number of planning, management and construction programs were set into place to work toward achievement of the national goals of "fishable/swimmable" waters by 1983 and the elimination of pollutant

discharges by 1985.

The discharge requirements established by the CWA are the minimum water pollution control requirements applicable to the CZM Program, consistent with the requirements of Section 307(f) of the federal Coastal Zone Management Act. Massachusetts specifies its fresh and salt surface water quality goals in 314 CMR 4.00.

All wastewater discharges to surface waters in Massachusetts are governed by permits that are issued jointly by the US Environmental Protection Agency (EPA) and the Massachusetts DEP in accordance with guidelines set forth as part of the National Pollutant Discharge Elimination System. This system establishes levels of effluent quality that must be achieved at municipal and industrial treatment facilities to ensure that water quality standards are met in the receiving waters. Massachusetts has not been delegated the authority to issue these permits, thus EPA draft the permits and submits them to DEP for review and state certification. This process results in a final discharge permit that is valid under both federal and state law, and as such, each permitting agency has the independent right to enforce its terms and conditions. The Clean Water Act requires that discharges satisfy both minimum technology and water quality requirements.

The approach now taken by EPA and DEP in the reissuance of NPDES permits is to review the permit file, conduct a site visit to each major facility to discuss permit issues and requirements with the permittee, and then to establish recommended effluent limitations and other applicable conditions. CZM reviews all draft permits for discharges to coastal waters for consistency with its policies.

Power generating stations are also governed by NPDES permits jointly issued by EPA and DEP. Issuance or reissuance of a NPDES permit is contingent upon the demonstration that the permitted activity is in compliance with CWA Section 316(a) regarding thermal discharges and Section 316(b) regarding cooling water intake structures. CWA Section 316(a) applies if the permit applicant seeks a variance from technology-based or water quality-based effluent limitations for the discharge of heat. To obtain the variance, the applicant must demonstrate that the effluent limitations proposed will ensure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the receiving waters. CWA Section 316(b) applies if the permit applicant seeks to withdraw cooling water from waters of the United States. Under Section 316(b), the applicant must demonstrate that the location, design, construction, and capacity of the facility's cooling water intake structures reflect the Best Technology Available for minimizing adverse environmental impacts.

401 Water Quality Certifications: Applying the federally approved surface water quality standards found at 314 CMR 4.00, DEP issues 401 Water Quality Certifications for dredge and fill projects. Additional information about this process may be found under Habitat Policy #1 and Ports Policy #1.

Ocean Sanctuaries Act: Attainment of marine water quality goals is further encouraged in M.G.L. c. 132A, §§12A-16F, 18, the Ocean Sanctuaries Act (OSA). This statute requires that in the Cape Cod Ocean Sanctuary, the Cape Cod Bay Ocean Sanctuary, and the Cape and Islands Ocean Sanctuary, no municipal wastewater treatment discharge into the ocean sanctuary shall be allowed. In the South Essex Ocean Sanctuary, municipal discharges are allowed only if it is: (1) the only feasible alternative to a water pollution problem as determined the Department of Environmental Management (DEM) and other EOEAs agencies; (2) consistent with the intention and purpose of the Act; and (3) approved and licensed by the federal and state agencies that have jurisdiction over the facility or discharge at the time it is proposed to be built. In the North Shore Ocean Sanctuary, a municipal discharge shall be allowed only if: (1) all the requirements for the South Essex Ocean Sanctuary are met; (2) construction is commenced prior to January 1, 1978, or the municipality has been awarded a federal or state grant for construction of the facility prior to January 1, 1978; (3) the waste has been treated by the best practical means; (4) the discharge is in accordance with plans developed under provisions of clause (10) of §27 of C.21.

No Discharge Areas (NDAs): Additional support for state and federal water quality standards is to be found in §312 (33 U.S.C. 1322) of the CWA. There are two relevant regulations promulgated under §312, which relate to preserving water quality. Under 40 CFR Part 40, EPA is authorized to develop regulations on the standard of performance for marine sanitation devices (MSDs). These regulations also provide states with the opportunity to apply for a No Discharge Area, a complete prohibition of vessel sewage (treated or untreated) in all or some of a state's waters. With the approval of the EPA Regional Administrator, certain water bodies can be designated as NDAs if the state determines that the protection and enhancement of the waters require greater protection than would be afforded by use of MSDs.

If it is definitively determined through a basin planning study, or other water quality study that discharges from recreational vessels in a particular water segment are causing a violation of the segment's water quality standards, CZM can recommend that the water segment be designated an NDA. If boating activity in this area is such that it is generally confined to the segment, sufficient pumpout facilities should be provided at either new or existing public and/or private boating facilities in the segment.

Under 33 CFR Part 159 (Subpart A), the US Coast Guard (USCG) developed regulations on certification procedures, design, construction, installation, operation, maintenance, and testing of MSDs on all recreational vessels equipped with installed sanitary facilities. The Clean Vessel Act of 1992 provides funding to states for the construction, operation, and maintenance of additional pumpout facilities and sanitary waste reception (i.e., porta-potty dump stations) at marinas and other vessel facilities. The Massachusetts Public Waterfront Act (M.G.L. c.91) is used to require pumpout facilities at both licensed and unlicensed private marinas when necessary.

## State Authorities

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21A, § 13: State Environmental Code  
310 CMR 11.00: Application & Administration of Environmental Code, Title 1  
310 CMR 15.00: On-site Sewage Disposal, Title 5

M.G.L. c. 21A, §14: On-site Sewage Disposal

M.G.L. c. 21E, § 3 *et seq.*: Massachusetts Contingency Plan  
310 CMR 40.000 Massachusetts Contingency Plan

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 130, §19: Marine Fisheries  
322 CMR 1.00-14.00 Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetland Restriction Act  
310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, § 40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 131, §40A: Inland Wetland Restriction Act  
310 CMR 13.00: Adopting Inland Wetland Orders

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

## **WATER QUALITY POLICY #2 - Ensure that nonpoint source (NPS) pollution controls promote the attainment of state surface water quality standards in the coastal zone.**

Implementation of the Clean Water Act has demonstrated that controls for point source discharges of pollutants have a beneficial effect on the nation's water bodies. However, nonpoint source (NPS) discharges are much more difficult to quantify and to address, so that control

measures for NPS discharges have not received such widespread implementation. Nationally, nonpoint pollution sources are ranked as the most significant contributor to the violation of surface water quality standards. In Massachusetts, monitoring assessments and professional estimates demonstrate that NPS pollution is the dominant cause of designated use non-attainment for rivers, lakes, and coastal waters.

CZM, with the coordination of other state agencies, administers and implements the state Coastal Nonpoint Pollution Control Program. The following are the fundamental components of this program:

Urban Areas: NPS pollutants generated by urban development and activities include stormwater runoff, inadequate or failing septic systems, construction projects, household sources, and roads and highways. Urban sources are the most significant source of pollutants to Massachusetts coastal waters.

**Stormwater:** In 1996, Massachusetts issued a statewide Stormwater Management Policy with nine management standards and associated policy and technical guidance. This Stormwater Management Policy was developed with the guidance and input of a diverse Stormwater Advisory Committee. The policy is implemented primarily through the state Wetland Protection Program, but is supported by authorities, jurisdiction, and coordination with other state programs as outlined below.

**Septic systems:** Septic systems are major sources of pathogens and nutrients, causing significant pollution in many areas of the coast. DEP, in cooperation with other state agencies including CZM, revised Title 5 of the State Sanitary Code in 1995. These regulations govern the installation and maintenance of septic systems throughout the Commonwealth. CZM worked with DEP to ensure that the Coastal Nonpoint Pollution Control Program requirements have been met by the revised Title 5.

**Construction:** New construction contributes sediment loads, as well as chemical and nutrient contaminants. Several different state program and authorities contain requirements to implement measures for erosion and sediment controls. CZM worked with the US Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) and the Massachusetts Executive Office of Public Safety to develop guidance on how to implement effective control measures. The document, Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials was released in 1997.

**Highways:** Highways contribute sediments, salt, heavy metals, and petroleum hydrocarbons to stormwater. Wetlands and shellfish growing areas continue to be

impacted in many coastal areas from runoff and stormwater coming off roads or routed through roadway drainage. CZM worked with the Massachusetts Highway Department to finalize stormwater, drainage and NPS control specifications for all state road and highway work. While the Massachusetts Stormwater Management Policy contains specific requirements for roads and highways, this guidance includes management practices and strategies specific to road and highway projects. Municipal road projects also must meet the state stormwater standards, and local highway departments have been and will be offered technical assistance so that they can better implement control measures, plan for future projects, and adopt local specifications.

National Marine Estuary Programs: The two Massachusetts National Estuary Programs, Massachusetts Bays and Buzzards Bay, have both developed Comprehensive Conservation and Management Plans (CCMPs) which contain extensive recommendations for nonpoint pollution controls and identify action steps for implementation efforts, many of which are underway.

Watershed Initiative: Massachusetts environmental and other agencies have been aggressively coordinating their efforts to develop watershed-based planning resource management. The purpose of watershed planning is to use new and existing tools to institute land use patterns that reduce environmental problems, such as NPS pollution. EOEPA has developed dedicated watershed personnel, or basin team leaders, to implement the Watershed Initiative program. CZM works with these teams and other agencies, as well as with regional planning organizations and local governments, to help implement watershed planning efforts to minimize NPS pollution.

Marinas and Recreational Boating: Marinas and boating activities have the potential to contribute pathogens, heavy metals, sediments, petroleum hydrocarbons, and as well as habitat impacts to coastal waters. Marinas and boats generate NPS pollution when they are improperly sited, designed, or operated. The state's Chapter 91 regulations and Wetlands Protection Program, which govern activities within Massachusetts waterways, address a number of causes of NPS pollution from boats and marinas. To help reduce the sources of NPS pollution, CZM has developed guidance documents that help marinas and harbormasters to implement state requirements and control NPS pollution. CZM provides marinas and harbormasters with the technical assistance they need to meet NPS requirements.

Agriculture: Agricultural activities are potential sources of sediments, nutrients, pathogens, and pesticides. Usually in Massachusetts agricultural runoff is localized, however it still has the potential to cause nonpoint pollution problems. CZM, the Massachusetts Department of Food and Agriculture (DFA), and DEP have developed an NPS pollution control strategy that focuses on technical assistance and pro-active planning with best management practices and that aims to avoid and address NPS pollution problems without causing economic hardship for Massachusetts' farmers. In addition, CZM has organized a workgroup comprised of representatives from the Farm Bureau, trade associations for cranberry growers and nurseries,

and individual farmers, to develop and review proposed agricultural management practices.

In order to develop the best strategies for reducing NPS pollution from agricultural sources, CZM worked with DFA, NRCS, and the University of Massachusetts Cooperative Extension Service to develop a technical manual, the *Massachusetts Environmental Farm Plan Workbook*. Training and technical assistance workshops are run throughout the state each year.

Hydromodification: The Massachusetts' Wetlands Protection Program and the Chapter 91 Waterways Program contribute significantly toward preventing and controlling NPS pollution impacts from channelization (dredging, flood control, and drainage improvements) and dam building. In addition, DEP's Office of Watershed Management's basin planning approach will help to determine where surface water quality is being adversely affected by hydromodification. Where problems are detected, DEP will work with other agencies and local officials to implement practices to restore water quality, including NPS pollution controls. Of particular note is a cooperative effort between EOEA and the Executive Office of Transportation and Construction (EOTC) to reduce hydrological restriction of tidal flows caused by transportation projects. CZM will continue to work with DEP through these initiatives, as well as with other agencies, to coordinate strategies that address the NPS pollution impacts from hydromodification.

Based on the components and strategy outlined in the *Coastal Nonpoint Control Plan*, CZM will implement this policy through the provisions of the following statutes and regulations.

### **State Authorities**

M.G.L. c. 21, §17B: Scenic and Recreational Rivers Act  
302 CMR 3.00: Scenic and Recreational Rivers Orders

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification  
314 CMR 15.00: Oil Pollution Control

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
301 CMR 12.00: Areas of Critical Environmental Concern

M.G.L. c. 21A, § 13: State Environmental Code  
310 CMR 11.00: Application & Administration of Environmental Code, Title 1  
310 CMR 15.00: On-site Sewage Disposal, Title 5

M.G.L. c. 21C, §§ 4, 6, and M.G.L. c. 21E, § 6: Hazardous Waste Management Act  
310 CMR 30.00: Hazardous Waste Regulations

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 111 §127A: State Sanitary Code

M.G.L. c. 111, §§142A-142N: Massachusetts Clean Air Act  
310 CMR 7.00: Air Pollution Control

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

Massachusetts Stormwater Management Policy and Management Standards

**WATER QUALITY POLICY #3 - Ensure that activities in or affecting the coastal zone conform to applicable state and federal requirements governing subsurface waste discharges.**

In the past, groundwater was generally considered to be a pristine resource. Both experts and the public believed that subsurface waters were naturally protected by layers of soil and earth, and were self-cleansing. Contamination, where it occurred, was thought to be primarily localized and the result of septic system operations. However, in the late 1970's, that way of thinking was drastically altered by the widespread discovery of pesticides and chemical in groundwater and the increased reports of drinking water well closures.

At the same time as these threats to groundwater began to be more clearly recognized, the importance of protecting groundwater also became clearer, not only as a source of drinking water but for its beneficial uses and ecological roles. According to EPA's *National Water Quality Inventory-1998 Report to Congress*, 77,500 million gallons of the nation's groundwater are withdrawn daily for uses including drinking and bathing, irrigation of croplands, livestock watering, and industrial uses, a rate of withdrawal that places a severe strain on the nation's groundwater resources. In the Commonwealth of Massachusetts, nearly one third of all sanitary waste is disposed of onsite, and nearly half of all those systems are substandard<sup>1</sup>. Onsite

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<sup>1</sup> *Executive Summary for Title 5*, Massachusetts Department of Environmental Protection.

wastewater disposal ranks among the top four sources of river pollution; has contributed to shellfish bed closures; and has degraded water supplies, lakes, and ponds. CZM's major concerns regarding substandard waste discharges include: nutrient loading into nitrogen sensitive embayments; prohibiting new septic system component construction in the velocity zone of a coastal beach, barrier beach, or dune; local upgrades approvals and variances; and new construction using shared systems.

### **Implementation and Federal Consistency Review**

CZM implements this policy through participation in and review of the following water quality programs and permits. Federal consistency review is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Title 5 of the State Environmental Code: The Commonwealth of Massachusetts promulgated regulations for Title 5 of the State Environmental Code for subsurface disposal of sanitary waste (310 CMR 15.00) in 1978. Since then, scientific studies have significantly changed our understanding of the environmental impacts of septic systems on ground and surface water. Mounting evidence of inadequate groundwater protection prompted DEP to revise subsurface disposal regulations in 1995.

Title 5 provides regulations for the design and construction of conventional septic systems and also allows for the use of innovative and alternative (I/A) technologies. I/A systems are those systems that provide substitutes or alternatives for one or more of the components of a conventional system while providing the same degree of environmental and public health protection.

In Massachusetts, there are upland areas with impermeable or wet soils, steep slopes, or bedrock near the surface. Unless public sewers are provided to overcome the constraints these factors impose on the use of subsurface disposal systems, development will be constrained by the Title 5, the State Environmental Code, which establishes minimum requirements for such systems. In the absence of sewers, the Code generally restricts permissible uses in these areas to moderate to low density residential, open space, recreation or other uses not requiring subsurface disposal. Permissibility is determined on a case-by-case basis because of the variability of soil and geologic conditions from site to site. If areas are sewered, they can be developed consistent with the policies for the remainder of the coastal zone.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program

314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21A, §13: State Environmental Code  
310 CMR 11.00: State Environmental Code, Title 1  
310 CMR 15.00: Subsurface Sewage Disposal, Title 5

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 111, §17: State Environmental Code

## **HABITAT**

The Massachusetts Coastal Zone Management Program intends to ensure that activities in or affecting coastal habitats protect wetland resource areas and functions while balancing multiple management interests. To accomplish this goal, CZM has developed two habitat policies that recognize and protect wetlands habitat, and encourage restoration of degraded wetlands.

### **HABITAT POLICY #1 - Protect coastal resource areas including salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, eelgrass beds, and fresh water wetlands for critical wildlife habitat functions as well as other including nutrient and sediment attenuation, wave and storm damage protection, and landform movement and processes.**

Salt marshes, shellfish beds, dunes, beaches, barrier beaches, salt ponds, submerged aquatic vegetation (e.g. eelgrass beds), and fresh water wetlands provide critical habitat for estuarine and marine organisms, including nesting and feeding areas for migratory waterfowl and shorebirds. As one of the most highly types of productive ecosystem, salt marshes produce and export organic matter that serves as a fundamental component of the marine food chain. Dunes, beaches, and barrier beaches, and in some cases salt marshes, serve important functions as natural buffers against flooding, erosion, and storm wave damage, provided they are left relatively unaltered and natural dissipation of wave energy can occur. Fresh water wetlands provide important links to marine systems when they occur within estuarine systems and as isolated areas within coastal regions. Anadromous and catadromous fisheries depend on these fresh water environments during critical stages of their life cycles. Due to their location between upland land uses and open water resources, bordering fresh water wetlands may also provide important nutrient and sediment attenuation functions. Isolated wetlands, such as kettle hole bogs, provide unique habitat types and may serve as groundwater recharge areas.

Nationally, coastal wetlands total approximately 27.4 million acres<sup>2</sup>. While relatively abundant as a percentage of estuarine drainage areas, coastal wetland resources have been diminishing at a rapid rate. Between the mid-1950s and the mid-1970s, the national loss of estuarine wetlands net totaled 400,000 acres, or over 18,000 acres lost per year<sup>3</sup>. These losses were due to urbanization, dredge and fill, channelization, agriculture, shoreline erosion, and other factors. From 1974 to 1983, the rate of estuarine wetland loss was 7,900 acres per year<sup>4</sup>.

In Massachusetts, marine and estuarine resource areas comprise approximately 118,000

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<sup>2</sup> Field, Donald W.; Anthony J. Reyer; Paul V. Genovese; and Beth D. Shearer. 1991. Coastal wetlands of the United States: An accounting of a valuable national resource. Washington, DC: National Oceanic and Atmospheric Administration, Strategic Assessment Branch.

<sup>3</sup> Tiner, Ralph W. 1984. Wetlands of the United States: Current status and recent trends. Washington, D.C.: US Fish and Wildlife Service, Habitat Resources.

<sup>4</sup> Tiner, Ralph W. 1991. Recent changes in estuarine wetlands of the coterminous United States. Newton Corner, MA: US Fish and Wildlife Service, NE Region I.

acres, 20 percent of the Commonwealth's total wetland acres<sup>5</sup>. Over the last 200 years, from approximately 1780-1980, it has been estimated that Massachusetts has lost nearly 28% of its wetland resources<sup>6</sup>. More recent estimates of freshwater wetland loss rates have been high. In the southeast region of the state, recent annual freshwater wetland loss rates have been estimated at 150 acres per year<sup>7</sup>.

In some coastal waters, submerged aquatic vegetation resources, such as eelgrass and widgeon grass, have also experienced sharp declines in recent years. Many shallow coastal embayments on southern Cape Cod and Buzzards Bay, for example, have witnessed nearly complete losses of this resource type. In these areas, this degradation has been linked with nutrient enrichment and accelerated eutrophication, but other factors such as disease and natural disturbance are thought to be influences.

Approximately 45,875 acres of wetland resources have been protected under the Coastal Wetlands Restriction Act, which authorizes the placement of restrictive orders on property deeds prescribing permitted and prohibited uses in wetland areas.

### **Implementation and Federal Consistency Review**

CZM implements this policy through participation in and review of the following wetlands programs and permits. Federal consistency review is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Massachusetts Wetlands Protection Act: The Massachusetts Wetlands Protection Act (WPA) (M.G.L. c. 131, § 40) serves to identify eight "public interest" functions that wetland areas provide, and it also sets forth a public review and decision-making process to establish regulations to protect these functions. Any activity that will potentially affect a wetland area is to be regulated in order to contribute to the following interests:

Protection of public and private water supply.

Protection of groundwater supply.

Flood control.

Storm damage prevention.

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<sup>5</sup> Tiner, Ralph W. 1992. Preliminary national wetland inventory report on Massachusetts' wetland acreage. Newton Corner, MA: US Fish and Wildlife Service, NE Region I.

<sup>6</sup> Dahl, T.E. 1990. Wetland losses in the United States 1780s to 1980s. Washington, D.C.: US Fish and Wildlife Service, Branch of Habitat Assessment.

<sup>7</sup> Tiner, Ralph W.; and William Zinni Jr. 1988. Recent wetlands trends in southeastern Massachusetts. Newton Corner, MA: US Fish and Wildlife Service, NE Region I.

Prevention of pollution.

Protection of land containing shellfish.

Protection of fisheries.

Protection of wildlife habitat.

While local Conservation Commissions implement the WPA regulations, the DEP Division of Wetlands and Waterways (DWW) administers the wetlands protection program on the state level and retains authority for case review and certain appeals decisions. DEP promulgates the WPA regulations and is responsible for informing and educating local Conservation Commissioners about program changes.

Massachusetts' WPA regulations rely primarily upon the presence of specific plant species as an indicator of wetland resource areas but also contain provisions to utilize hydrological and soil indicators in certain circumstances.

On lands subject to the Wetlands Protection Act (land under the ocean, coastal banks, coastal beaches and tidal flats, coastal dunes, barrier beaches, rocky intertidal, salt marshes, land under salt ponds, Designated Port Areas, land containing shellfish, and land on the banks of fish runs) activities are approved, prohibited, or conditioned by local conservation commissions based on their effects on wetland functions and the public interests listed above. Activities within these resource areas or their buffer zones that may remove, fill, dredge, or alter wetland areas are regulated on a case-by-case basis to protect the interests specified in the Wetlands Protection Act.

The ecological integrity of these wetland resource areas may also be adversely affected by activities occurring outside of the jurisdictional areas--in adjacent or contiguous uplands. Such impacts may include: the alteration of natural hydrology which may affect salinity regimes and shellfish and fishery habitats, the contribution of pollutants from septic tanks or from stormwater runoff affecting the human consumption of shellfish or the alteration of natural vegetation communities, or increased sedimentation from upland erosion which may impair the growth, distribution, and reproduction of vegetation, shellfish, or finfish.

Conservation commissions, acting in accordance with the Wetlands Protection Act, may review proposed developments on contiguous lands if they occur within jurisdictional areas and appropriately condition or deny such developments so as to minimize damage to the interests of the Act. Additionally, WPA regulations specify that activities outside the resource area and buffer zone may be prohibited or conditioned once wetland impacts have been documented.

Applicants who disagree with the conditions imposed on the project or others who

believe that the interests of the Act are not protected by the conditions set forth by the Conservation commission may appeal to DEP for a Superseding Order of Conditions.

Massachusetts Wetlands Restriction Act: The Inland and Coastal Wetland Restrictions Acts were enacted by the state legislature to enable the creation of permanent deed restrictions on mapped wetlands to provide additional protection to these areas. The Wetland Conservancy Program (WCP) of DEP administers the Wetland Restriction Program but is no longer actively involved in establishing restrictions due primarily to funding constraints. The WCP is still conducting important wetland mapping work.

On lands that have been protected by the Wetlands Restriction Act, uses are generally restricted to conservation, outdoor recreation, shellfish harvesting, and other passive uses. Other permissible uses may include underground energy transportation lines and certain other utility lines, maintenance of existing roads and boat channels, and the construction of wharves, piers, boats, shelters, floats, and catwalks. Maintenance dredging is permitted. All other activities are generally prohibited.

Stormwater Management Policy: In 1996, Massachusetts issued a statewide Stormwater Management Policy with nine management standards and associated policy and technical guidance. The policy is implemented primarily through the state Wetland Protection Program, but is supported by authorities, jurisdiction, and coordination with other state programs as outlined below.

Additional discussion of the implementation of these performance standards is contained in the Water Quality section.

Chapter 91 Waterways Program: Massachusetts Chapter 91 Waterways Program serves to protect the public's interest and rights in tidelands, great ponds, and rivers. Administered by DWW, the Chapter 91 Program controls different uses of jurisdictional waterways and tidelands. The regulations (310 CMR 9.00) list the geographic areas and activities subject to jurisdiction. Once under the scope of jurisdiction, activities may be subject to a review process to obtain a Chapter 91 permit or license.

The geographic scope of the Chapter 91 Program can be summarized as including all tidelands, navigable rivers, great ponds, and filled tidelands (310 CMR 9.04), though landlocked filled tidelands are not in jurisdiction. All activities requiring a Chapter 91 license or permit are listed in 310 CMR 9.05 and include:

New fill or structures.

Existing fill or structures not previously licensed.

The alteration of existing fill or structures.

Dredging projects.

Beach nourishment projects.

Mooring fields.

Water level manipulations of Great Ponds.

New unlicensed uses of fill or structures in jurisdiction.

Review of an activity for a Chapter 91 license or permit focuses initially upon its water-dependency. Non water-dependent projects can only be permitted if they meet three tests: they serve a proper public purpose, their benefits exceed their detriments, and they are consistent with CZM's policies. In addition, specific performance standards apply to all jurisdictional activities. It is these standards that serve to implement many nonpoint source controls.

One very important part of the Chapter 91 process is that the regulations explicitly state that jurisdictional activities must be in compliance with all applicable environmental regulatory programs, and in the event that regulatory authority is not present but statutory authority exists, DWW must include in the permit/license all applicable standards and requirements of other agencies as provided for in a Memorandum of Understanding (MOU) (310 CMR 9.33 (4)). If no MOU exists, DWW must consult with the responsible agency and may adopt any formal recommendations into Chapter 91 license or permits.

§401 Water Quality Certification: According to §401 of the Clean Water Act (CWA), any activity or project requiring a federal permit or license for a discharge into the nation's waters must obtain certification from the state that the proposed discharge will not violate the state's water quality standards. In Massachusetts, the §401 Water Quality Certification Program has been administered solely by DWW, but under a framework provided by revised regulations and procedures, the §401 Program will be administered by DEP with local Conservation Commissions filling advisory roles. In 1992, interim guidance transferred the review responsibility for projects involving fill in wetlands from DEP offices in Boston to the DEP regional offices to provide better coordination with the Wetlands Protection Program. This interim guidance provided the basis for revisions to the §401 regulations and mechanisms. The codified revisions became effective 1 March 1995.

The revised regulations (314 CMR 9.00) contain the specific standards governing the discharge of dredged and fill material, dredging, and dredged material disposal in waters of the Commonwealth. The federal permit that triggers the need for state §401 certification in the case of the discharge of dredged and fill material is the US Army Corps of Engineers (ACOE) §404 Permitting Program. Because most projects affecting wetlands will require both a state wetlands permit (WPA) and a federal wetlands permit (§404), DWW and ACOE have signed into

agreement a Programmatic General Permit (PGP).

This PGP eliminates the need for individual and perhaps duplicative ACOE review and decision for projects below a certain threshold level. For projects below this threshold, a state or local wetlands decision is sufficient and is used in place of a §404 permit. As such, in this PGP, Massachusetts has certified that certain WPA permit decisions (and therefore federal §404 permit decisions) will meet state water quality standards.

The revised §401 Water Quality Certification standards provide further mechanisms to eliminate duplicative review and reduce administrative burdens. The regulations establish thresholds for projects that would need specific DEP review for water quality concerns and others for which the Conservation Commission review necessary for WPA decisions would be sufficient to protect state water quality standards.

The activities not subject to DEP review include (314 CMR 9.03):

Projects altering less than 5,000 square feet of wetlands in compliance with the WPA.

Beach nourishment projects in compliance with the WPA.

Dredging of less than 100 cubic yards.

Activities exempt under the WPA Agriculture section.

The activities that require independent DEP review include, but are not limited to (314 CMR 9.04):

- Projects resulting in greater than 5,000 square feet of fill to bordering vegetated wetlands (BVWs), isolated wetlands, or land under water.
- Projects resulting in a discharge to an outstanding resource water (ORW).
- Certain projects exempt from the WPA.
- Projects resulting in any amount of discharge to salt marsh.
- Dredging projects of more than 100 cubic yards of material.
- Any discharge of dredged or fill material associated with the creation of a real estate subdivision, unless there is a recorded deed restriction providing notice to subsequent purchasers limiting the amount of fill for the single and complete project to be less than 50,000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water and the discharge is not to a ORW.

- Any activity subject to an individual §404 permit by the ACOE.

The revised §401 regulations have additional standards for stormwater discharges that are associated with projects involving the discharge of dredge or fill material (314 CMR 9.06 (5)(6)). These standards prohibit the discharge of fill material in wetlands for the purposes of stormwater quality management. They also mandate that stormwater discharges associated with any project or activity requiring a §401 certification must meet the Massachusetts Stormwater Policy and Management Standards.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
 314 CMR 3.00: Surface Water Discharge Permit Program  
 314 CMR 4.00: Surface Water Quality Standards  
 314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
 301 CMR 12.00: ACEC Regulations

M.G.L. c. 21A, §13: State Environmental Code  
 310 CMR 11.00: Application & Administration of Environmental Code, Title 1  
 310 CMR 15.00: On-site Sewage Disposal, Title 5

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
 301 CMR 11.00 MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
 310 CMR 9.00: Waterways Regulations

M.G.L. c. 111, §127A: State Sanitary Code

M.G.L. c. 130, §19: Marine Fisheries  
 322 CMR 1.00-14.00 Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetlands Restriction Act  
 310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40: Wetlands Protection Act  
 310 CMR 10.00: Wetlands Regulations

M.G.L. c. 131, §40A: Inland Wetland Restriction Act

310 CMR 13.00: Adopting Inland Wetland Orders

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Site Selection, Evaluation and Assessment

**HABITAT POLICY #2 - Restore degraded or former wetland resources in coastal areas and ensure that activities in coastal areas do not further wetland degradation but instead take advantage of opportunities to engage in wetland restoration.**

As explained in the Habitat Policy #1, historical wetland loss has been significant both nationally and in the Commonwealth. While unauthorized losses have been essentially eliminated through state and federal regulatory programs, unsuccessful compensatory mitigation and cumulative or secondary impacts continue to reduce both the quantity and quality of the state's wetland resources. CZM recognizes the wide array of ecological and human benefits that can be realized through the successful restoration of degraded wetland and aquatic resources. In early 1994, the Commonwealth established the Wetlands Restoration and Mitigation Banking Program (WRBP) within EOEPA. This program has two objectives: (1) wetlands restoration and (2) wetland mitigation banking. Habitat Policy #1 includes a discussion of wetland losses and their effects. This program provides a means of reversing loss of wetland resources.

**Implementation and Federal Consistency Review**

CZM implements this policy through participation and coordination in the Wetlands Restoration and Banking Program, technical and sponsorship roles for active restoration projects, and by review of proposed restoration projects through federal consistency. Federal consistency review is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Wetlands Restoration and Banking Program: In order to increase wetland acreage in the state and improve/restore the degraded or lost functions of altered/filled wetlands, the WRBP relies on a partnership network to coordinate the components of a comprehensive restoration initiative. The components of this initiative include:

- Developing and implementing the Action Plan for wetlands restoration in Massachusetts.
- Coordinating public outreach for wetlands restoration.
- Establishing and applying the technical standards for restoration.

- Implementing watershed-based wetland restoration site inventories.
- Facilitating project-specific tasks.
- Evaluating program success.
- Supporting actions that result in, or complement, wetlands restoration.

The WRBP has developed a restoration site selection methodology for the purposes of this program. The WRBP is actively involved in preparing wetland restoration plans for a number of coastal and inland watersheds. The WRBP has also worked with the Department of Transportation to develop a "salt marsh policy" Memorandum of Understanding with EOEA which will result in significant restoration efforts and the prevention of further transportation related causes degradation.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
 314 CMR 3.00: Surface Water Discharge Permit Program  
 314 CMR 4.00: Surface Water Quality Standards  
 314 CMR 5.00: Groundwater Discharge Permit Program  
 314 CMR 6.00: Groundwater Quality Standards  
 314 CMR 9.00: 410 Water Quality Certification

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
 301 CMR 12.00: ACEC Regulations

M.G.L. c. 21A, §13: State Environmental Code  
 310 CMR 15.00: Subsurface Sewage Disposal, Title 5

M.G.L. c. 21A, §14: On-site Sewage Disposal

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
 301 CMR 11.00 MEPA Regulations

M.G.L. c. 130, §§ 1-104: Marine Fisheries  
 322 CMR 1.00-12.00, 14.00: Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetlands Restriction Act  
 310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40: Wetlands Protection Act

310 CMR 10.00: Wetlands Regulations

M.G.L. c. 131, §40A: Inland Wetland Restriction Act  
310 CMR 13.00: Adopting Inland Wetland Orders

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Site Selection, Evaluation and Assessment

## **PROTECTED AREAS**

It is CZM's intent to protect recognized complexes of marine resources by ensuring that activities in or affecting such areas are designed to avoid or minimize adverse effects. Three policies addressing Areas of Critical Environmental Concern, Scenic Rivers, and historic districts implement CZM's goals for these protected areas.

### **PROTECTED AREAS POLICY #1 - Preserve, restore, and enhance complexes of coastal resources of regional or statewide significance through the Areas of Critical Environmental Concern program.**

The Massachusetts Areas of Critical Environmental Concern (ACEC) Program provides protection for complexes of natural and cultural resources of statewide significance by heightening the level of state regulatory review given to development proposals; by promoting state, regional and local planning and coordination; and by providing technical assistance to develop and implement the goals of resource management plans for ACECs. Values that can be conserved through the Program are listed in the ACEC Regulations, 301 CMR 12.00, and further described in the 1993 ACEC Program Guide. They include:

Fishery habitat.

Coastal features (barrier beaches, beaches, dunes, rocky intertidal).

Estuarine wetlands.

Inland wetlands.

Inland surface waters.

Water supply areas.

Natural hazard areas (floodplain, erosion area).

Agricultural areas.

Historical/archeological resources.

Habitat resources.

Special use areas (natural areas, public recreation areas, scenic areas).

In 1978, when the original CZM Program Plan was promulgated, CZM was the lead state agency in the process of nominating and designating coastal ACECs. ACECs are equivalent to

Areas of Preservation and Restoration (APRs), described in the federal Coastal Zone Management Act. For many years, the primary focus of the ACEC program was, in large part due to CZM's authority over the program, on important coastal resources. There are, however, a number of inland resource complexes that are of statewide significance. In order to recognize the statewide importance of this program, CZM, DEM and the Secretary of Environmental Affairs signed a Memorandum of Understanding (MOU) in 1993, giving primary authority for the administration of the ACEC program to DEM. CZM works in close cooperation with DEM to review nominations and designate coastal ACECs, and to implement ACEC designations.

### **Implementation and Federal Consistency Review**

CZM implements this policy through participation in and review of the several aspects of the ACEC program. Federal consistency review of ACEC nominations and projects proposed in ACECs is carried out in accordance with the state statutes and regulations that are listed below.

Nomination and Designation of ACECs: groups of citizens, and/or municipalities, and regional and state agencies nominate ACECs. The Secretary of Environmental Affairs designates ACECs after a comprehensive environmental assessment and public review process.

Protections include prohibition of activities that will damage the resource complex and some activities are categorically prohibited below mean high water within the water bodies comprising the ACECs, including the following:

New industrial discharges and the discharge of hazardous substances (if the water segments are classified anti-degradation).

New dredging except for maintenance of existing channels or for enhancement of shellfish and other marine productivity.

Disposal of dredged material, except in instances when the material may be used for beach nourishment, dune stabilization, or marsh creation.

Direct discharges from new sewage treatment facilities, (if the water segments are classified anti-degradation).

Siting of new municipal sewage treatment plants.

If activities are proposed for an area which is related by natural processes (for example, littoral currents or tides) to the ACEC such that the activity may impact the ACEC, applicants for federal or state funds or permits are required to demonstrate that the proposed activity will not adversely affect the characteristics cited in the official Secretary of Environmental Affairs designation of the area. In addition, the Energy Facilities Siting Board, in conducting its review of energy facilities proposed in ACECs, gives prime consideration to the need to prevent adverse

environmental impacts in these areas.

ACEC designation also triggers other special protection measures for the area, including:

Higher performance standard under the Wetlands Protection Act of "no adverse effect" to Coastal Resource Areas, except that maintenance dredging of Land Under the Ocean for navigational purposes is allowed.

Higher performance standard under the Wetlands Protection Act for Bordering Vegetated Wetlands (BVW), which eliminates the possibility of receiving an Order of Conditions for loss of BVW under 310 CMR 10.55(4)(e). However work can be authorized under any other section of the Wetlands Protection Act.

Prohibition of the siting of new solid waste facilities within ACECs pursuant to the Site Assignment Regulations for Solid Waste Facilities (310 CMR 16.00).

Prohibition of the siting of low level radioactive waste storage facilities.

High priority for receipt of state open space acquisition funds granted to municipalities, and for acquisition and management by the Division of Fisheries and Wildlife (as a state wildlife area), by the Department of Environmental Management (as a state forest or park), and the Department of Food and Agriculture (as an agricultural preservation restriction).

Higher priority in DEP's ranking of hazardous waste sites (21E) targeted for remediation.

The designation of an area as an ACEC, however, does not prohibit or eliminate existing uses, or prohibit development in general.

The authorities to provide protection to wetland resources within ACECs include provisions regarding review of proposed developments on lands contiguous to wetlands, with the additional protections specified in the Wetlands Protection Act regulations for ACECs noted above. Tidelands licensing is used to prohibit new dredging and disposal.

Each ACEC designation is formally accomplished through designation of the area as an Area of Critical Environmental Concern, pursuant to the Secretary of EOE's powers under M.G.L. Chapter 21A, (this process is outlined in 301 CMR 12.00: ACEC regulations). This designation essentially means that greater scrutiny will be given to state funded and permitted projects proposed for the area and to state planning and direct state activities, as the categorical exemptions for smaller projects from the reporting and review requirements of the Massachusetts Environmental Policy Act will be removed.

Such designation also signifies to the Department of Environmental Protection that DEM and CZM may recommend classification in Massachusetts Water Quality Standard Regulations of all water basin segments within the complex as SA and anti-degradation waters, if they currently are not so classified, in order to maintain high water quality. If the proposed ACEC has had adverse anthropogenic impacts, the ORW designation may not initially be appropriate, but may be a goal of the ACEC Resource Management Plan.

Resource Management Plans: When an ACEC is nominated for protection, specific resources are cited for their unique value. Though the ACEC program designated its first protected coastal area in 1978, planning for the protection, management and restoration of these valuable resource complexes has been very slow in coming, leaving regulators and nominators without guidance for their preservation efforts. CZM encourages the development of resource management plans through the provision of technical assistance to DEM and municipalities and, when available, through the provision of funding for plan development

Nomination and designation of ACECs in urbanized areas present some unique challenges, particularly in the remediation of hazardous waste sites and the restoration of degraded natural and cultural resources. CZM, DEM, DEP and municipal agencies are working together to resolve cross-jurisdictional regulatory matters that may impede the restoration of resource complexes in the more developed areas of the state.

## **State Authorities**

M.G.L. c. 21, §17A: Public Access Board

M.G.L. c. 21, §17B: Scenic and Recreational Rivers Act  
302 CMR 3.00: Scenic and Recreational Rivers Orders

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
301 CMR 12.00: ACEC Regulations

M.G.L. c. 21A, §13: State Environmental Code  
310 CMR 15.00: Subsurface Sewage Disposal, Title 5

M.G.L. c. 21A, §14: On-site Sewage Disposal

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00 MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 93 § 29, and c. 93D, § 1: Outdoor Advertising Board  
711 CMR 3.00: Outdoor Advertising Board

M.G.L. c. 111, §127A: State Sanitary Code

M.G.L. c. 130, §§1-104: Marine Fisheries  
322 CMR 1.00-12.00, 14.00: Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetlands Restriction Act  
310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40A: Inland Wetland Restriction Act  
310 CMR 13.00: Adopting Inland Wetland Orders

M.G.L. c. 132A: State Recreation Areas

M.G.L. c. 132A, §11: Self Help Program  
301 CMR 5.00: Self Help Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facilities Site Selection, Evaluation and  
Assessment

## **PROTECTED AREAS POLICY #2 - Protect state and locally designated scenic rivers and state-classified scenic rivers in the coastal zone.**

The coastal rivers of Massachusetts are noted for their beauty, however coastal watersheds are the most intensely developed areas of the state. Scenic values are threatened by residential, commercial and industrial development. In order to recognize and preserve this visual resource, the Commonwealth has developed several programs that focus on scenic rivers.

### **Implementation And Federal Consistency Review**

CZM implements this policy through participation in the state's scenic rivers programs and review of projects proposed in scenic watersheds. Federal consistency review of projects proposed on scenic rivers is carried out in accordance with the state statutes and regulations that are included at the end of this section.

State Designated Scenic Rivers: In 1978, the North River in the towns of Scituate, Marshfield Norwell, Hanover, Hanson, and Pembroke was designated as a state scenic river pursuant to M.G.L. c. 21, § 17B: Scenic and Recreational Rivers Act. In accordance with this law, a river management plan was prepared, and a Protective Order regulating uses and activities on the river and within a 300-foot corridor along each bank was developed and recorded at the Plymouth County Registry of Deeds. The Protective Order acknowledges the significance of the North River and sets forth regulations to preserve and protect the natural, scenic and recreational resources of the river corridor. The Order also establishes the North River Commission, which reviews development proposals within the corridor and administers the regulations set forth in the Order. CZM works with DEM and the North River Commission to protect the North River.

Locally Designated Scenic Rivers: Many communities in Massachusetts have locally designated scenic rivers. Local designation may occur once DEM has approved a locally developed protective mechanism or management plan, which outlines specific strategies for protecting the river. These mechanisms and/or plans are administered at the local level. Designation as a local scenic river may result in some priority for state acquisition funding. CZM will work with DEM to acknowledge locally designated scenic rivers and support efforts to protect them.

State Classified Rivers: As part of the state Scenic Rivers Program, DEM conducted an extensive inventory and classification of the state's rivers. Of the 180 rivers nominated for designation, 46 rivers or river segments were identified as eligible for inclusion in the state's scenic rivers system, including several in the coastal zone. While no action has been taken to date to pursue state designation of these river corridors, they include significant scenic and recreational resources worthy of protection. The classification carries no regulatory implication but indicates that these river segments include significant scenic qualities that should be protected to the maximum extent possible. DEM currently supports community-based greenway and river corridor protection efforts through the provision of small grants and technical assistance to municipalities, watershed associations, and non-profit conservation organizations. CZM cooperates with DEM and support state and local efforts to protect the unique resources of these rivers within the coastal zone.

## **State Authorities**

M.G.L. c. 21, §17B: Scenic and Recreational Rivers Act  
302 CMR 3.00: Scenic and Recreational Rivers Orders

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act

## 301 CMR 11.00 MEPA Regulations

M.G.L. c. 93, § 29, c. 93D, § 1: Outdoor Advertising Board  
711 CMR 3.00: Outdoor Advertising Board

### **PROTECTED AREAS POLICY #3 - Ensure that proposed developments in or near designated or registered historic districts or sites respect the preservation intent of the designation and that potential adverse effects are minimized.**

Historic districts or sites are designated through:

Placement on the National and State Register of Historic Places.

Creation of historic districts by local governments.

Establishment by special acts of the Massachusetts Legislature.

### **Implementation and Federal Consistency Review**

CZM implements this policy through review of projects proposed in historic areas or at historic sites in the coastal zone. Federal consistency review of such projects are carried out in accordance with the state statutes and regulations included at the end of this section.

For purposes of this policy, the geographic scope of "near" is defined similarly to the application of state zoning act notices (M.G.L. c. 40A, §12). "Near" thus includes parts of abutting properties, properties directly opposite on any public street or way, or any other property to the extent proposed developments on any of these are within 300 feet of the historic site or district.

Historic Sites or Districts: Since impacts on historic sites or districts established by special legislative act or in accordance with M.G.L. c. 40C are regulated by local historic district commissions, this Policy is to be implemented primarily at the local level. However, any private action that requires a state permit also requires a notification to the Massachusetts Historical Commission (MHC). MHC is consulted to assist in the identification and evaluation of potential impacts and it conducts a review in accordance with its state statutes and regulations. In addition, under §61 of the Massachusetts Environmental Policy Act, a state agency is charged to find that, prior to issuance of any permit, all practical means and measures have been taken to minimize damage to the environment, including limits on "destruction, damages, or impairment, actual or probable, to...historic districts or sites." Projects involving the use of state funds are similarly evaluated and appropriately modified to avoid, minimize or mitigate adverse impacts on historic sites or districts.

In addition, most local historic districts and historic sites are already on the National Register or eligible for listing on the Register, and are thus assured an additional measure of protection against any potentially damaging effects caused by federally funded or licensed projects. CZM reinforces the review procedure established by the National Historic Preservation Act by delaying issuance of a certificate of consistency until they are deemed not to cause significant negative impacts on the historic qualities of the districts or sites. As with state funded or licensed projects, review is coordinated with the Massachusetts Historical Commission consistent with the procedures established by the National Historic Preservation Act.

This policy is implemented through the provisions of the following statutes and regulations:

**State Authorities**

M.G.L. c. 9, §§26-27D: Massachusetts Historic Commission Act  
950 CMR 71.00: Protection of Properties on State Register of Historic Places

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 40C: Historic District Act

Special Historic District Acts.

## COASTAL HAZARDS

The CZM will use its authority over coastal development and other activities in the coastal zone to: 1) prevent, eliminate or significantly reduce threats to loss of life, destruction of property and degradation of environmental resources resulting from improper development, human occupation and other activities in the coastal zone; 2) allow natural physical coastal processes to continue unabated, to the extent feasible, while allowing appropriately sited coastal development and economic growth; 3) limit, prohibit or condition public expenditures in coastal high hazard areas in order to ensure that increased exposure to coastal hazards is not promoted; and 4) prioritize public expenditures for acquisition and relocation of structures out of hazardous coastal areas. Hazardous coastal areas are defined as areas susceptible to storm surge and waves, flooding, erosion, and relative sea level rise.

CZM has developed the following four policies to achieve these objectives.

### **COASTAL HAZARD POLICY #1 - Preserve, protect, restore, and enhance the beneficial functions of storm damage prevention and flood control provided by natural coastal landforms, such as dunes, beaches, barrier beaches, coastal banks, land subject to coastal storm flowage, salt marshes, and land under the ocean.**

In addition to their value as habitat and sources of primary productivity, natural coastal landforms (barrier beaches, dunes, beaches, coastal banks, land subject to coastal storm flowage, salt marshes, land under the ocean) in the coastal zone provide significant protection from coastal storms, flooding, erosion, and relative sea level rise. Beaches, marshes, dunes, and land subject to coastal storm flowage dissipate destructive storm waves over their gradual slopes. Dune systems and coastal banks, particularly if stabilized by beach grasses and other binding vegetation, prevent direct wave attack against landward areas due to their elevation and ability to dissipate wave energy. Barrier beaches protect both mainland development and the salt marshes and productive habitat between them and the mainland.

In order to function effectively as natural buffers, however, these landforms and the natural processes which link them together must remain relatively free from alterations that would disturb their state of "dynamic" equilibrium. For example, if natural erosion of a beach, dune or coastal bank is providing sediment via longshore sediment transport that is eventually deposited on another beach farther down the coast, it is important to prevent any action to retard erosion of these upcoast landforms and from impeding the flow of sand or other unconsolidated material to the downcoast beach, dune, and/or nearshore areas. In addition, many barrier beaches migrate slowly landward and in a downdrift direction. This unimpeded movement allows them to maintain their elevation, form and volume, and, thus, their protective capability relative to rising sea level and storm forces.

Pressure for development in these sensitive areas along the shore for residential, commercial or recreational uses has been significant in the past, resulting in substantial losses in

property damage during major northeast storms and hurricanes, and impairing the ability of these landform buffers to protect landward development and other unique areas and aspects of the coastal zone.

Development in areas vulnerable to storms, flooding, erosion, and relative sea level rise in turn results in pressure for the construction of protective structures, such as seawalls and revetments. In some instances, such structures have been effective and are necessary, particularly where natural buffers have been irrevocably lost, such as in urban areas. However, they are becoming increasingly recognized as expensive short-term solutions, which may only exacerbate problems elsewhere along the coast, and foster a false sense of security. For example, groins typically cause accretion on their updrift side, but erosion of the shore on their downdrift side resulting in accelerated loss of land and increased actual and potential storm damage to structures and natural resources.

Coastal engineering structures are generally constructed along eroding shores or areas subject to storm damage from wave activity. As the high water line on an eroding shore migrates toward a fixed object, such as a seawall, revetment or bulkhead, the beach diminishes in volume and width resulting in the eventual loss of the beach and its protective function, as well as loss of the recreational value of the beach and the reserved rights of fishing and fowling in the intertidal area (see Public Access policy). Furthermore, due to the interaction of waves with these coastal engineering structures increased scour and steeping of the fore- and nearshore areas often result. These effects are accelerated and exacerbated the closer to the high water line (thus wave activity) a seawall, revetment, dike, or other 'hard' coastal engineering structure lies, resulting in increased erosion, scour and wave forces on the structure.

Non-structural alternatives on the other hand, more closely simulate natural processes, are likely to be as effective in the long term, and avoid the creation of adverse effects on downcoast areas. Non-structural protective and restoration measures, such as beach and coastal bank nourishment, dune rebuilding, and stabilization by vegetative plantings, most closely simulate the effects of natural conditions. If properly designed, they can provide effective buffers against storm forces, are generally substantially less expensive than structural measures, are aesthetically more compatible with natural landforms, and avoid or minimize the creation of adverse effects on adjacent or downcoast areas. Therefore, non-structural alternatives should be favored over structural measures where feasible.

Relocating or setting-back a structure landward, away from the destructive capability of storm waves, erosion, flooding and relative sea level rise reduces or can eliminate a potential hazard. In addition, this action negates the necessity of altering a natural coastal landform in order to accommodate construction and occupation of the site. Elevating a structure above the destructive capability of storm waves, floods, and projected relative sea level rise (for at least the life of the structure) also reduces the potential for storm-related damage.

Barrier beaches on which activities are allowed which have the potential to alter wetlands

resources, e.g. off road vehicle (ORV) use, are required to have approved barrier beach management plans. The Commonwealth has identified, designated and mapped 681 barrier beaches. Guidance for preparing barrier beach management plans to aid in balancing the myriad of competing uses and to protect the beneficial function of the barrier can be found in *Guidelines for Barrier Beach Management in Massachusetts*, 1994, and can be obtained from CZM.

Relative sea level in Massachusetts is rising at approximately one foot per one hundred years. In 1995, the Environmental Protection Agency predicted that the current rate of eustatic (worldwide) sea level rise is anticipated to accelerate. This predicted acceleration of eustatic sea level rise would result in a relative sea level rise rate in Massachusetts of approximately 1.5 feet per one hundred years by the year 2050. As sea level rises, passive erosion and additional flood inundation occurs, as well as flood elevations concomitantly rising. In addition, as relative sea level rises the entire complex of coastal wetland resources are likely to be in a state of transition as the entire complex gradually moves landward due to rising sea levels. This is particularly relevant in those portions of the coastal floodplain that are immediately landward of salt marshes, coastal beaches, barrier beaches, coastal dunes or coastal banks. Activities carried out within these special transitional areas of coastal floodplains may interfere with the natural landward migration of the adjacent coastal resource areas. The result may be adversely reducing the geographic extent and thus the storm damage reduction and flood control capabilities of these important landforms.

Therefore, relative sea level rise should be factored into the design life, elevation, and location of buildings and other structures within the coastal floodplain.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to project proponents and to other public agencies, and review of projects proposed on coastal landforms. Federal consistency review of projects proposed on coastal landforms is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Coastal Engineering Structures/Non-structural Alternatives: Non-structural alternative approaches to coastal hazards reduction are preferred over structural alternatives. Structural flood and erosion control alternatives should not interfere with the ability of a coastal landform to erode (providing material to adjacent beaches, dunes, and nearshore areas) and respond/reshape in response to wind, tide, and wave activity, if these landforms contribute to storm damage prevention or reduction, and/or flood control. Beaches and dunes must also be allowed to naturally (re)build, and migrate and/or grow landward, seaward, and laterally.

Where applicable, structural flood and erosion control alternatives may be allowed (e.g. on coastal banks that are proposed to be armored to protect a structure built prior to August 10, 1978, and is required to prevent storm damage to that structure), only when it is determined through an alternatives analysis that non-structural alternatives are not feasible. When a coastal

engineering structure, such as a seawall, revetment, or bulkhead, is determined to be the only feasible and legal alternative, a commensurate volume of compatible material being prevented from eroding from the coastal landform (e.g. coastal bank) and entering the littoral (beach and nearshore) system will be required to be periodically placed in the littoral system. The volume of material to be required to be placed in the littoral system will be based on calculation of the long-term average annual erosion rate of the bank at the site. Short-term rates can be considered in determining the compensatory volume of material if the issuing authority determines that the short term rate is more indicative of current and future conditions due to alterations along the shore.

If an existing coastal engineering structure is required to be replaced or substantially repaired, and the structure is noted to be causing adverse effects (e.g. end scour and/or accelerated erosion due to impoundment of material), consideration will be given to calculating and placing a volume of compatible sediment in the location of the adverse effect or in the littoral system to mitigate the adverse effect. If the coastal engineering structure(s) is noted to be causing serious adverse effects on adjacent or downdrift property such that public health or safety concerns are apparent, alternatives to the structure(s) will be required to be analyzed, and if feasible, a preferred alternative implemented.

Restoration and/or enhancement of previously impaired environmental resources through non-structural alternatives will be encouraged, and where appropriate, required. Existing buildings located in dunes, beaches and barrier beaches which are proposed to be substantially reconstructed or improved, or the foundation is proposed to be replaced, will be elevated on open pilings a sufficient height above the land surface to allow the underlying landform to provide its beneficial functions, and to allow adequate sunlight penetration for stabilizing plant growth.

Priority emphasis will be placed on first considering non-structural measures, such as dune, beach and/or coastal bank nourishment to preserve and restore the natural protective functions of coastal landforms and processes. Structural measures will be allowed only following an alternative analysis of hazard mitigation techniques, and it is conclusively determined that no non-structural alternative is feasible.

Acquisition of Hazard-Prone Areas: Priority emphasis will also be placed on acquisition of hazard-prone areas with hazard mitigation funds to prevent unwise development of hazardous areas, or relocation of existing structures out of harms way in order to eliminate potential loss of life or destruction of property or degradation of the beneficial functions of natural coastal landforms, before structural measures are permitted.

Erosion/Relative Sea Level Rise: For proposed new or substantially reconstructed or substantially improved construction, long-term (or where applicable, short-term) erosion rates, and relative sea level rates will be taken into consideration in the location and elevation of the structure on the site. Landward migration of resource areas (salt marshes, dunes, beaches, etc) in

response to relative sea level rise shall be incorporated into the design, placement and elevation of structures, and other activities in the coastal floodplain. In any case, the structure will be placed as far landward as feasible to avoid or at least minimize the threats created from occupying shoreline sites from natural shoreline processes, and to allow landward migration of resources.

CZM supports and encourages this emphasis and has developed its policies to first avoid, then minimize and/or mitigate the threats associated with human occupation of hazardous coastal locations; to promote optimal use of coastal landforms relative to the risks; to restore previously impaired areas through non-structural solutions; to prevent development that would exacerbate existing hazards; and, to implement limited structural alternatives with mitigation only in situations where the need for structural protection is unquestioned. The structural alternative should be the minimum necessary to provide protection. Oftentimes, if a structural alternative is determined to be necessary, a combination of structural with non-structural measures can reduce the overall adverse impact of the structural approach alone.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 130, §105: Coastal Wetland Restriction Act  
310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 131, §40A: Inland Wetland Restriction Act  
310 CMR 13.00: Adopting Inland Wetland Orders

Executive Order 149: FEMA and Floodplain Use

Executive Order 181: Barrier Beaches

Executive Order 190: Off-road Vehicles

780 CMR : Massachusetts State Building Code

**COASTAL HAZARD POLICY #2 - Ensure construction in water bodies and contiguous land areas will minimize interference with water circulation and sediment transport. Approve permits for flood or erosion control projects only when it has been determined that there will be no significant adverse effects on the project site or adjacent or downcoast areas.**

Estuaries and coastal embayments are particularly productive areas and prime habitat for a variety of marine species. Fresh water river discharge into estuaries helps to create favorable salinity regimes for certain marine species. Interference with natural river discharge and tidal flushing can alter circulation and sedimentation patterns such that storm damage, erosion and/or flooding can be exacerbated or moved to different locations previously not experiencing these hazards. Hard erosion control structures, such as groins or revetments, can adversely affect adjacent or downcoast areas by trapping sediments that would otherwise be transported downcoast by littoral processes or by impairing the functioning of natural buffers.

**Implementation And Federal Consistency Review**

CZM implements this policy through technical assistance to project proponents and to other public agencies, and review of structures proposed in coastal waters. Federal consistency review of structures proposed in coastal waters is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Design and construction of solid fill piers, bulkheads, groins, jetties, revetments or other permanent structures in coastal waters will be examined on a case by case basis for the following:

- The project's consistency with Coastal Hazard Policy #1.
- The project's impact on flushing rates and discharge capacity in estuaries and coastal embayments.
- The project's alteration of wave or tidal generated sediment transport at the project site or on adjacent or downcoast areas. Of particular concern are significant adverse changes in depositional patterns or natural storm damage prevention or buffering functions.

The design and construction of highways, roads, bridges, dams, and the diversion or

impoundment of water will also be reviewed for conformance to the above provisions. Additionally, construction of these facilities in contiguous upland areas must not:

- Significantly increase upland erosion, induce or accelerate runoff of contaminants, or otherwise adversely affect the quality of coastal receiving waters; (**NB:** see also Water Quality Policies).
- Affect the quantity of fresh water discharge entering coastal receiving waters such that circulation and sedimentation patterns would be adversely altered causing additional hazards elsewhere.

### **State Authorities**

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

### **COASTAL HAZARD POLICY #3 - Ensure that state and federally funded public works projects proposed for location within the coastal zone will:**

- **Not exacerbate existing hazards or damage natural buffers or other natural resources.**
- **Be reasonably safe from flood and erosion related damage.**
- **Not promote growth and development in hazard-prone or buffer areas, especially in Velocity zones and ACECs.**
- **Not be used on Coastal Barrier Resource Units for new or substantial reconstruction of structures in a manner inconsistent with the Coastal Barrier Resource/ Improvement Acts.**

This policy is primarily aimed at ensuring the soundness of public investment for public works projects in hazardous coastal areas. First, public facilities and infrastructure, such as roads, sewers, and/or water lines that are constructed in hazardous coastal areas may be subjected to continual damage necessitating costly repair and maintenance. Second, the provision of public services in hazardous coastal areas with the capacity to serve growth beyond

existing development may encourage new development that would be incompatible with the risks and the need to protect natural buffers. Third, increasing public services, together with the availability of flood insurance, may increase private property values, thereby inducing pressure for additional federal or state subsidies to build shoreline protection structures. Such a result would be inconsistent with the state and national policy to shift the burden of risk of living in hazardous coastal areas to the property owner and may induce spiraling subsidies for development in hazardous areas, as well as discourage voluntary relocation.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to project proponents and to other public agencies, and review of public works projects proposed in the coastal zone. Federal consistency review of public works projects proposed in the coastal zone is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Installation or Expansion of Infrastructure: The installation or expansion of infrastructure, such as sewerage systems, treatment plants, water lines, roads, bridges, etc., in highly dynamic and unstable environments, such as barrier beaches and FEMA-mapped Velocity zones, will be discouraged, since construction of these facilities may encourage conversion of summer homes to year-round use or stimulate new or expanded development. Other public health or safety issues may be created or exacerbated as a result of new or expanded infrastructure in hazardous coastal areas, such as installation of sewerage without recharge facilities which may cause depletion of critical groundwater supplies. Additionally, a system failure during a major tidal flood could cause a severe pollution problem.

Thus, structural solutions in high risk hazardous coastal areas should be implemented only if warranted by a documented, severe public health or safety problem, such as a serious, documented water pollution problem, and if non-structural solutions, such as upgrading of existing individual subsurface disposal systems, a shared off-site system, or relocation are deemed ineffective or cost prohibitive. If implemented, the design capacity of sewerage or water systems will be limited to the existing peak population and the systems will be adequately floodproofed. Grant or funding conditions to limit or prohibit expansion of existing structures, and/or construction of new structures will be utilized in order to prevent increased exposure to coastal hazards.

In addition to the above criteria, structural solutions will only be implemented if:

- Non-structural measures, such as acquisition, relocation, land use regulation, floodproofing, and dune/beach restoration or stabilization have been evaluated and rejected as being ineffective, or legally infeasible.
- Implementation of structural measures will not seriously impair the functioning of natural processes, nor adversely affect adjacent or downcoast areas.

Federal and/or State Funding of Public Works: Regardless of whether structural or non-structural measures are used in hazardous coastal areas, federal and/or state funding of such measures will only be used if:

- The area to be protected is of greater than local significance and substantial public benefit in the form of protection of existing public facilities or development of improved public access and expanded public use opportunities can be achieved in conjunction with construction of the proposed project.
- Adequate land use regulations or physical controls on access and occupation of the area can be established to prevent deterioration of restored or stabilized areas.
- In the case of restoration and nourishment, adequate design criteria have been established and can be achieved to ensure proper height, slope, width, and sand grain size of restored dune and beaches.
- Adequate cost-sharing, principally with direct beneficiaries is developed.
- The costs of and responsibilities for future maintenance have been identified and agreed to. Maintenance will principally be the responsibility of the direct beneficiaries, such as the owner of property immediately landward of publicly-funded seawall (re)construction or beach nourishment projects.

This policy will primarily be implemented by central CZM staff within the Office of the Secretary of Environmental Affairs who will formally review proposed public works projects through use of existing review processes (e.g. National Environmental Policy Act (NEPA), and MEPA). CZM will work with DEM, the Army Corps of Engineers, and Natural Resources Conservation Services to seek necessary appropriations and ensure consistency with this policy. CZM also encourages demonstration and evaluation of new technological approaches to hazard mitigation e.g. erosion control, and will assist in providing opinions on the application of innovative technique installations in other areas.

Particular scrutiny will be given to design capacity, siting of facility components, service areas or new access provided if applicable, adequacy of floodproofing, and the nature and extent of necessary site disturbance. This policy applies only to public works projects and not to other forms of federal assistance, such as home mortgages.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards

314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 81: State Highways

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 161A: Massachusetts Bay Transportation Authority

Executive Order 149: FEMA and Floodplain Use

Executive Order 181: Barrier Beaches

Executive Order 190: Off-road Vehicles

**COASTAL HAZARD POLICY #4 - Prioritize hazard mitigation funds for acquisition of hazardous coastal areas for conservation or recreation use, and relocation of structures out of coastal high hazard areas, giving due consideration to the effects of coastal hazards at the location to the use and manageability of the area.**

Acquisition of land, either in full or in part through easement purchase, is a common means of preserving or expanding open space. It is also the most effective tool for preventing growth and development that would be vulnerable to the effects of coastal hazards or would impair the buffering functions of natural areas. Further, most open space uses will not require construction of extensive facilities and, therefore, are appropriate for hazardous coastal areas.

On the state level, it is unlikely that sufficient funds will be available for the acquisition of lands on the basis of hazard protection alone, since the availability of acquisition funds will typically be dependent, in part, on the recreational or habitat protection benefits that can be derived. Therefore, hazardous coastal areas should be given priority for state acquisition if:

- They serve as a natural buffer protecting public investments in nearby or downcoast areas.
- They abut an existing public recreational area.
- They can be improved through non-structural measures so that they can sustain an

appropriate type and level of public recreational activity for a reasonable time, given the nature of the hazards present.

Acquisition by local conservation commissions, on the other hand, can be used to conserve the buffering or ecological value of hazardous coastal areas without requiring intensive recreational use. It is therefore recommended that hazardous coastal areas be considered for local acquisition (with or without state assistance) if they serve as natural protective buffers or if their buffering capabilities could be restored through non-structural improvements, particularly if local zoning or other controls are inadequate to prevent development that would be vulnerable to damage or would exacerbate existing hazards.

Acquisition by any level of government should also be prioritized if federal, state, and/or local funds have been repeatedly allocated for floodproofing or repair of damaged utilities, roads, bridges or other public services. Acquisition of repeatedly damaged areas may be justified in order to prevent redevelopment that would again risk major losses, degrade natural buffering functions, or require continued public subsidy (such as disaster relief).

In addition to acquisition, CZM will support local zoning measures that promote use of erosion and flood prone areas appropriate to the risks of damage and the need to protect natural buffers. CZM also supports restoration measures, access controls and other means that may be taken at the local level to enhance the protective capabilities of natural land forms, such as dunes and barrier beaches.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to other public agencies, and review of proposed acquisition of hazardous coastal areas. Federal consistency review of acquisition proposals in the coastal zone is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Acquisition of Hazardous Coastal Areas: Acquisition of hazardous coastal areas by the state could be achieved using existing capital funds, Coastal Zone Management funds, or the Land and Water Conservation Fund through the Division of Conservation Services, provided substantial recreational benefits can be derived. The propensity for hazards would thus be considered as only one of many criteria under existing point system selection processes.

The selection system which is used to allocate state Self Help funds to communities that can meet the matching requirements weighs ecological and other natural values more heavily, thereby providing greater flexibility in receiving funding for acquiring hazardous coastal areas. Use of this fund may therefore be most appropriate to local acquisition of hazardous coastal areas. In any case, acquisition of coastal lands for hazard area management should be coordinated with acquisition for recreation projects.

CZM technical staff will be available for assistance, on request, in the development of local hazard area zoning by-laws or erosion mitigation measures.

**State Authorities**

M.G.L. c. 132, §11: Self Help Program  
301 CMR 5.00: Self Help Regulations

DEM coastal land acquisition funds

**also see OCEAN RESOURCES POLICY #3** for CZM's policy on sand and gravel mining and its effect on the shoreline.

## **PORT AND HARBOR INFRASTRUCTURE**

It is CZM's intent to ensure that access to the waterways of the Commonwealth are maintained and improved by the least environmentally damaging practicable alternatives. To accomplish this objective, CZM has developed policies concerning dredging and disposal of dredged material, priorities for channel dredging, and Designated Port Areas, and a Management Principle to encourage additional improvements to developed ports.

### **PORTS POLICY #1 - Ensure that dredging and disposal of dredged material minimize adverse effects on water quality, physical processes, marine productivity and public health.**

Dredging is necessary to maintain recreational and commercial access to the waterways of the Commonwealth. Dredging supports significant recreational and commercial activity, and provides the means by which a significant segment of the population are able to experience, and directly benefit from access to, the resources of the coastal zone. Recognizing this, the state, in addition to regulating the potential impacts to resources of dredging projects, is also charged with maintaining and improving the navigability of our waterways.

The necessity and benefits of dredging must be balanced against the potentially significant impacts that dredging and disposal activities can have on aquatic resources.

Dredging and disposal can:

- Impact significant marine habitat, such as salt marsh, eel grass, and land containing shellfish, either through direct removal or physical alteration of sediments.

- Alter water circulation patterns, bathymetric contours that directly affect wave activity, and alter the flood storage capacity of coastal areas.

- Impact water quality through releases of chemical contaminants with potentially acute and/or chronic impacts.

- Impact the migration or spawning of fisheries resources through the physical resuspension of sediment.

The impacts associated with the ad hoc disposal of dredged material can be significant. Management of dredged material is therefore generally restricted to disposal at state or federally designated aquatic disposal sites, placement of coarse-grained material on beaches as nourishment material, reuse as cover or shaping material at landfills, or disposal as waste at landfills.

## **Implementation and Federal Consistency Review**

CZM implements this policy by providing technical assistance to project proponents and to other public agencies, and by reviewing dredging and dredged material disposal proposals in the coastal zone. Federal consistency review of dredging and disposal proposals in the coastal zone is carried out in accordance with the state statutes and regulations that are included at the end of this section.

State Policy and Regulatory Review: The Commonwealth's goal is to manage dredged material as a resource and to dispose of dredged material as a waste only when no beneficial use is practicable. Currently, for projects other than those that are predominantly coarse-grained (sand), the opportunities for beneficial use are limited. In these cases, disposal alternatives for contaminated material shall be permitted that represent the least environmentally damaging practicable alternative. This may include upland, nearshore, or aquatic disposal, subject to regulation by the Department of Environmental Protection.

Dredged Material Management: While the impacts associated with dredging can be significant, the disposal of dredged material typically poses a greater potential for unacceptable impacts.

Revised regulations governing the disposal of dredged material are currently being developed by the Department of Environmental Protection, in recognition of the need to incorporate advances in science and technology and to provide formal guidance for alternative management methods currently under evaluation (confined aquatic disposal, alternative technologies).

The Commonwealth is committed to encouraging beneficial use of dredged material. In 1998, 58% of the total 1.3 million cubic yards of material dredged was put to beneficial reuse. And while beneficial use opportunities are currently limited primarily to coarse-grained materials for beach nourishment, alternative technologies may in the near future provide additional cost-effective reuse alternatives for upland beneficial reuse of dredged material.

The Commonwealth's management approach to coarse-grained material strongly encourages beneficial use as beach nourishment material. Because most dredging of sand is done on Cape Cod and there is always a need for beach nourishment on local beaches, it is almost always the most economical and desirable management option.

Management of uncontaminated and contaminated fine-grained material is also guided by the Commonwealth's beneficial use policy, but the alternatives available for both types material are limited. For uncontaminated material, management consists of testing under state and federal protocols to determine its chemical content, an analysis of potential reuse alternatives (typically at a landfill as cover), and, if none, placement at a state or federally designated aquatic disposal site (the Massachusetts Bay Disposal Site or the Cape Cod Disposal Site).

For contaminated fine-grained materials reuse opportunities are even further restricted; if no practicable reuse alternative exists this material can be disposed of as waste in an upland landfill or may be considered for confined aquatic disposal. No unconfined aquatic disposal of contaminated material is permitted.

Dredging and Dredged Material Disposal Projects: Regardless of location or need, damage to the environment and public health shall be minimized by ensuring that dredging and dredged material disposal projects will not cause:

- A significant increase in the volume or velocity of water which may cause flooding resulting from alterations in the bottom morphology of an estuary, embayment or other tidal waters.
- Significant adverse effect on the flood storage capacity of a wetland, river, stream or creek.
- A significant increase in flood or erosion hazards or significant adverse effect on the natural replenishment of beaches resulting from changes in sediment transport processes.
- A permanent change in circulation patterns, which will result in a significant adverse change in flushing rate, ambient salinity, temperature, and turbidity, levels.
- Any significant removal of shellfish beds except as allowed through consultation with the Division of Marine Fisheries.
- Any degradation of water quality that would result in a violation of water quality standards, contamination of recreation waters or marine food sources, or contamination or depletion of public or private groundwater supply (including aquifers and recharge areas).

The following general provisions shall also apply to dredging operations and the selection and use of disposal sites.

#### Dredging

- Timing limitations for dredging shall be determined by the Department of Environmental Protection in consultation with the Division of Marine Fisheries (DMF) on a case by case basis in order to minimize impacts to diadromous fish runs.

- Conflicts with recreational activity or other activities occurring within the water body to be dredged shall be minimized.
- Dredging of contaminated sediments shall be undertaken with new-generation tight sealing bucket dredges or other appropriate equipment that minimizes, to the greatest degree practicable, the suspension or resuspension of material in the water column.

#### Sediment Analyses/Impact Evaluation Procedures

Testing procedures for evaluating the sediments to be dredged for potential impacts on disposal site environments shall be determined by Department of Environmental Protection guidelines and regulations, and by the *Evaluation of Dredged Material proposed for Ocean Disposal (Testing Manual)*, ("Green Book"), and *Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters*, ("New England Guidance") for disposal in MPRSA §103 waters, and by the *Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual*, ("Inland Manual") for disposal in CWA §404 waters.

#### Disposal Sites and Methods

The unconfined ocean disposal of contaminated dredged material in or affecting the waters of the Commonwealth is prohibited.

Beneficial use of dredged material should be favored over upland or aquatic disposal, and alternatives should be explored on a project-by-project basis.

Clean sandy dredged material should be used for beach nourishment if a suitable nourishment site can be identified. For publicly funded projects, sandy material must, except in extraordinary circumstances, be used for beach nourishment; material from private projects should be used for beach nourishment provided any additional handling costs can be justified.

If ocean disposal is proposed at a site other than the MBDS, CCDS or currently permitted nearshore sites, such disposal shall be reviewed such sites shall be identified through a screening process that identifies suitable areas based on an analysis of fisheries resources, chemical and physical oceanography, economical haul distances, alternative disposal options, and need. In general, aquatic disposal of uncontaminated fine-grained material shall be restricted to designated sites.

Monitoring of all aquatic sites is required; for state-designated disposal sites such as the Cape Cod Bay Disposal Site (CCDS), the Department of Environmental

Management is charged with management and monitoring responsibilities, subject to the recommendations of the Disposal Site Advisory Committee, chaired by CZM.

Special Management Areas: In special management areas, dredging and disposal shall not cause any significant permanent adverse effects on marine productivity resulting from suspension or transport of pollutants or other substances, blanketing of organisms, bio-accumulation of pollutants by organisms, or habitat or nutrient source area destruction.

The potential benefits and impacts of dredging projects in special management areas should be evaluated in the context of the location and the purpose for which the Area of Critical Environmental Concern or Designated Port Area was designated.

DPAs are dedicated to the protection and enhancement of urban maritime industrial activities. The environmental regulation of dredging projects in DPAs presumes that land under the ocean is significant to marine fisheries, storm damage prevention and flood control. Projects in DPAs must minimize adverse impacts to these interests using the best practical measures. If other resources subject to protection under the Wetlands Protection Act are determined to be significant, projects in DPAs must use the best available measures to minimize adverse impacts.

ACECs are dedicated to the protection of outstanding natural resource areas; accordingly, projects are held to a high standard of environmental review. Improvement dredging for navigational purposes is prohibited, as is the disposal of dredged material except for the sole purpose of environmental enhancement. Maintenance projects in ACECs shall minimize adverse impacts to resources subject to protection under the Wetlands Protection Act.

This policy will be implemented primarily through the authorities vested in the Waterways Program, will be administered consistently with the provisions of CZM's enforceable program policies on Habitat, Wetlands, Protected Areas and Water Quality and will apply to both funding and permitting activities of the Waterways Program.

### **State Authorities**

M.G.L. c. 21, §17B: Scenic and Recreational Rivers Act  
302 CMR 3.00: Scenic and Recreational Rivers Orders

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21, §§54-58 Mineral Resource Act

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
301 CMR 12.00: ACEC Designations

M.G.L. c. 21A, §14: On-site Sewage Disposal

M.G.L. c. 21C, §§4, 6, and c. 21E, §6: Hazardous Waste Management Act  
310 CMR 30.00: Hazardous Waste Regulations

M.G.L. c. 30 §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 111, §§150A-150B: Solid Waste Disposal Facilities

M.G.L. c. 130, §§1-104: Marine Fisheries  
322 CMR 1.00-12.00, 14.00: Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetland Restriction Act  
310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

**PORTS POLICY #2 - Obtain the widest possible public benefit from channel dredging, ensuring that designated ports and developed harbors are given highest priority in the allocation of federal and state dredging funds. Ensure that this dredging is consistent with marine environment policies.**

Adequate channel depths are a prerequisite for any kind of waterfront dependent activity. Given that public funding for dredge projects is limited, public agencies must, of necessity, allocate these funds to projects that provide the greatest public benefit and demonstrate the most pressing need. At the same time, dredging and disposal, especially of contaminated dredge material, can cause severe and lasting adverse impacts on the marine environment.

## **Implementation and Federal Consistency Review**

CZM implements this policy by funding technical assistance to project proponents and to other public agencies, and by reviewing channel dredging proposals in the coastal zone. Federal consistency review of channel dredging in the coastal zone is carried out in accordance with the state statutes and regulations that are included at the end of this section.

All dredging, whether public or private shall be:

Regulated in resource areas subject to protection under the Wetlands Protection Act, including, but not limited to salt marshes, dunes, sandy beaches, barrier beaches, and shellfish flats.

Limited to maintenance dredging or improvement dredging for the express purpose of enhancing resource habitat in designated Areas of Critical Environmental Concern (ACECs) and salt ponds.

In the allocation of federal or state funding for dredging, priority will be given to Designated Port Areas and to developed harbors. Developed harbors are defined as those that meet at least one of the following characteristics:

- Provides public mooring space, berths, slips, ramps, and docks which serve a region-wide boating public, as evidenced by either (a) public access to the harbor which is free or open for nominal fee to non-residents and which has adequate parking facilities; or (b) very heavy boating traffic;
- Hosts harbor facilities used by commercial fishermen;
- Serves cruise boats, ferries and other marine industry; and/or
- Presents unique development opportunities for the fishing industry or for waterfront renewal and revitalization.

There are about 100 developed harbors along the Massachusetts coast. In port areas and developed harbors, maintenance dredging will have the highest priority for public assistance. Publicly funded maintenance dredging will be scheduled so that projects demonstrating the most pressing need, widest public benefit, and least environmental damage are carried out first.

Deepening or expanding channels and mooring or turn-around basins beyond depths or sizes to which they were initially dredged will be approved for state or federal funding if the project meets two of the following criteria:

- Provides broad public benefits for recreational boating which are spread over a

region and which redound to the general public and is necessary to resolve harbor conflicts between fishermen and recreational boaters;

- Enhances benefits to the commercial fishing industry;
- Produces economic returns to maritime shipping and other maritime industries by reducing turn-around times and in-harbor transit delays, and permits usage of more efficient sized vessels; and/or
- Reduces navigational safety risks.

Furthermore, proposals for the creation of new channels or mooring and turn-around basins of 20-foot depth or greater will only be publicly assisted if the need to be met by the project is of national or statewide importance; cannot be accomplished in designated port areas; and impacts on the marine environment are deemed to be acceptable.

### **State Authorities**

M.G.L. c. 21, §17B: Scenic and Recreational Rivers Act  
302 CMR 3.00: Scenic and Recreational Rivers Orders

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21, §§54-58: Mineral Resource Act

M.G.L. c. 21A §2(7): Areas of Critical Environmental Concern  
301 CMR 12.00: ACEC Regulations

M.G.L. c. 21A, §14: On-site Sewage Disposal

M.G.L. c. 21C, §§4, 6, and c. 21E, §6: Hazardous Waste Management Act  
310 CMR 30.00: Hazardous Waste Disposal Regulations

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 111, §§150A-150B: Solid Waste Disposal Facilities

M.G.L. c. 130, §§1-104: Marine Fisheries  
322 CMR 1.00-12.00, 14.00: Marine Fisheries Regulations

M.G.L. c. 130, §105: Coastal Wetland Restriction Act  
310 CMR 12.00: Adopting Coastal Wetland Orders

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries regulations

**PORTS POLICY #3 - Preserve and enhance the capacity of Designated Port Areas (DPAs) to accommodate water-dependent industrial uses, and prevent the exclusion of such uses from tidelands and any other DPA lands over which a state agency exerts control by virtue of ownership, regulatory authority, or other legal jurisdiction.**

Designated Port Areas (DPAs) are the primary working waterfronts within the Commonwealth's developed coastal harbors. In essence, DPAs encompass the priority "host" sites intended to meet both the foreseeable and unanticipated space needs of industrial uses that depend on proximity to a waterway, either for the transportation of goods/passengers or the withdrawal/discharge of large volumes of process water. The list of specific uses defined as water-dependent industrial is provided in Attachment A at the end of this policy.

To be classified as a DPA, a contiguous land and water area must be suitable to accommodate water-dependent industrial use due to the presence of port infrastructure consisting of three interrelated attributes:

- A waterway and associated waterfront that have been developed for commercial navigation.
- Land area adjoining the water's edge that is conducive in both physical configuration and use character to the siting of industrial operations.
- Land-based transportation and public utility services appropriate for general industrial purposes.

This special combination of attributes is found in a very limited and diminishing portion of the coastal zone, and particularly few areas are of sufficient contiguous extent to invite

concentrations of related businesses and/or large scale facilities. Because economic, environmental, and social factors now virtually preclude further development of such an intensive nature, what remains of the industrialized coast should be preserved to the maximum extent practicable in order to meet the long term, cumulative space needs of water-dependent industries. As a matter of state policy, it is not desirable to allow these scarce and non-renewable resources of the marine economy to be irretrievably committed to, or otherwise significantly impaired by, non-industrial or nonwater-dependent types of development which enjoy a far greater range of locational options.

### DPA Locations and Boundaries

There are eleven DPAs, located (all or in part) in the following fourteen communities: Gloucester, Salem, Beverly, Lynn, Revere, Chelsea, Everett, Boston, Quincy, Weymouth, Fairhaven, New Bedford, Fall River, and Somerset. Maps showing the current DPA boundaries are available from CZM.

The boundaries of DPAs are established by CZM in accordance with written criteria governing the suitability of contiguous lands and waters to accommodate water-dependent industrial use, as appropriate to the harbor in question. Basically, the water portion of a DPA must include a navigable entrance or main channel with a design depth of 20 feet, and must be of a configuration, size, and location appropriate for the maneuvering or berthing of vessels, the placement of intake/outfall structures, or other activities involving direct utilization of the water. The land portion, similarly, must be functional for port purposes in terms of having a developed shoreline, conducive topography, and appropriate transportation and utility infrastructure. Also, the land portion of a DPA must exhibit a use character that is predominantly industrial or reasonably capable of becoming so (considering the concentration of non-industrial buildings and/or uses that are present within the land portion in question).

As a general rule, CZM applies the foregoing suitability criteria in the context of groups of parcels that form coherent planning units, rather than to individual project sites or other properties under common ownership or control. DPA-related attributes typically vary across different parcels, such that the combined characteristics of associated parcels in the same general vicinity are not reflected accurately in the characteristics of any single property. For this reason, it is important that geographic areas proposed to be included in (or removed from) a DPA be sized and configured in a manner that allows consideration of all relevant factors affecting overall suitability to accommodate water-dependent industrial use.

### Associated Regulatory Principles

DPAs were founded on the premise that it makes both good environmental and good economic sense to encourage maritime business development within harbor areas that have already been altered extensively – at great public expense – to meet the special operational and physical requirements of port-related commerce. Thus, the central intent of this CZM Policy is to

preserve and enhance the capacity of DPAs to accommodate both existing and future water-dependent industrial use.

However, preservation of essential port infrastructure does not mean that DPAs should be treated as pure land banks, in which space not presently utilized for water-dependent industry is entirely off-limits to other productive enterprise. To the contrary, CZM believes that the long-term viability of DPAs for maritime commerce actually depends to a certain degree on maintaining flexibility to utilize at least a portion of vacant port properties for nonwater-dependent or non-industrial purposes. Under the right circumstances, where appropriate measures are taken to minimize exclusionary effects, such development activity can provide economic or operational support that can be instrumental in helping water-dependent industries locate or stay in a DPA.

It is also important to point out that on many port properties it is desirable for new development to incorporate an element of public access, in order to promote public awareness and appreciation of maritime industrial activities. Despite the somewhat gritty character of many working waterfronts, there is no reason for DPAs to be places that uniformly cut-off a community from its harbor. To the contrary, with careful attention to the layout and design of individual projects, it is often feasible to weave pedestrian accessways into industrial districts without jeopardizing public safety or causing operational interference. Accordingly, the general intent of this policy is to allow small-scale pedestrian facilities in appropriate DPA locations, usually in the form of "point" accessways running perpendicular to the shoreline. Public access objectives, however, must not interfere with port development interests if there is a conflict between public safety in an industrialized area and pedestrian access. For this reason, lateral walkways are generally not allowable along any DPA shoreline that is suitable for commercial vessel activity.

Clearly, community development objectives other than the promotion of water-dependent industry can be pursued to a considerable extent within a DPA. Nevertheless, it is important to recognize that meaningful safeguards are needed to ensure that such "non-conforming" activity does not significantly impair the ability of the DPAs to serve the primary state and regional interests for which they were established to begin with. To ensure that long-term port preservation interests will not be subordinated to more immediate but lower priority development opportunities, this DPA Policy includes two key regulatory principles, as described below.

#### The Principle of Operational Compatibility

One way the maritime capacity of a DPA can be diminished substantially is through conflict, as when a proposed project directly interferes with or otherwise disrupts or detracts from the operation of a water-dependent industry. To avoid significant conflict, it is important that the type, location, scale, duration, operation, and other relevant aspects of redevelopment projects be compatible with activities characteristic of a working waterfront and its backlands.

Residential uses clearly are inappropriate in this regard and are categorically prohibited in a DPA, whereas nonwater-dependent industrial uses generally are presumed to meet the test of compatibility. Commercial uses are evaluated on a case-by-case basis, except for those which inherently give rise to severe conflict with port operations or excessive consumption of port space, either directly or indirectly (e.g. as a result of collateral development activity). These include:

- Transient group quarters such as hotels/motels, nursing homes, and hospitals.
- Recreational boating facilities.
- Amusement parks and other major entertainment or sports complexes.
- New buildings devoted predominantly to office use.

Projects involving new or expanded development of these uses are not allowable in a DPA under CZM Policy.

#### The Principle of Limited Occupancy

Another way that DPA capacity can be impaired seriously is through preemption, which entails an irretrievable commitment of space with attributes that are of primary importance in attracting maritime development to the DPA. Such space encompasses not only deep-water navigation areas and water-side docking facilities, but also nearby shorelands offering room for staging, storage, vehicular movement, and other forms of operational support. To avoid significant preemption, the following minimum limitations on the extent and/or duration of non-conforming uses have been adopted:

- Nonwater-dependent uses may not occur in any spaces or facilities with attributes that are necessary to maintain the utility of the project site for prospective water-dependent industrial use, especially that for which it is among the most suitable in the harbor in question; at a minimum, new or expanded structures for such use are categorically excluded within a specified setback distance from the water's edge.
- The total area occupied by commercial uses and/or non-maritime industry (including ancillary uses such as parking) is limited to a minority portion of the land area on a project site; for most projects the site coverage limit is 25%, although somewhat greater amounts of general industry may be allowable on a temporary basis (up to ten years) or as part of a predominantly maritime industrial complex; in addition, an even higher density of non-port development on individual sites can be authorized by an approved DPA Master Plan (as discussed further in the Policy Implementation section, below).

- Generally, no structures may be built or altered which cannot be subsequently removed or converted to water-dependent industrial use with relative ease; also, conditions governing the duration of tenancy or other mechanisms may be established to ensure that nonwater-dependent activity occurs in a manner that preserves adequate flexibility over time to accommodate water-dependent industrial uses as future needs arise.

As a general rule, uses that are most likely to avoid significant preemption tend to be small businesses that are adaptable to the upper floors of existing buildings, to minor infill parcels, and to other interstitial spaces not likely (in their own right or in combination with other nearby spaces) to be of primary importance in attracting port-related development in the foreseeable future.

As an additional safeguard against preemption, proposals for nonwater-dependent or non-industrial use may be challenged by a "competing party" who intends to develop the site for water-dependent industrial use, provided the party is a state or local government agency (or a maritime business or other organization with sufficient expertise, experience, and financial ability for implementation). If a clear showing were made that the competing project would promote water-dependent industrial use to a greater degree than the original development proposal, and if the competing party meets certain eligibility and procedural requirements in filing the challenge, the original proposal will be denied in favor of the competing project.

### DPA Master Plans

In many communities the DPAs remain essentially unplanned in terms of promoting maritime development, preventing commitments to other uses that would significantly exclude water-dependent industrial activity, and accommodating supporting industrial and commercial uses in a conflict-free manner. Symptomatic of this problem is the fact that most zoning ordinances applicable to the working waterfront pre-date the Commonwealth's promulgation of regulations governing land and water use in DPAs, resulting in the potential for significant inconsistency between state and local decision-making.

To establish a formal mechanism by which such inconsistencies can be resolved in an orderly and constructive manner, CZM encourages municipalities to develop a DPA Master Plan as a separate component of a municipal harbor plan, to be approved by the Secretary of Environmental Affairs. Approval of a DPA plan is governed by regulatory criteria that are designed to produce state/local agreement as to the roster of prohibited and allowable uses within various segments of the DPA, as well as a strategy for the cooperative promotion of water-dependent industrial use.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to other public agencies, and

review of project proposals in DPAs, proposed DPA boundaries, and DPA Master Plans. Federal consistency review of projects in DPAs, proposed DPAs, and DPA Master Plans is carried out in accordance with the state statutes and regulations that are included at the end of this section.

### Control of Development on DPA Tidelands

In keeping with the CZM Program Plan, since 1979 the waterways regulations of DEP have included provisions to prevent development with an exclusionary effect upon water-dependent industry in any DPA. Originally these restrictions applied only in the waterway itself because state jurisdiction under M.G.L. c. 91 ended at the high water mark. However, in 1984 the legislature expanded the licensing authority of DEP to include filled tidelands, thereby allowing the policy of protection to be enforced on the land side as well. Major modifications to the waterways regulations followed in 1990, which established a prohibition on most non-industrial uses on DPA lands and also imposed limits (in space and time) on the extent to which nonwater-dependent industrial activities were allowed to occur. Effective December, 1994, the DEP waterways regulations were amended so that most commercial uses are now eligible for licensing as a Supporting DPA Use, subject to certain criteria to ensure the project will provide greater benefit than detriment to port preservation interests.

Under the current regulations, DPA property owners who intend to devote a site predominantly to maritime activity but also wish to attract industrial tenants that are nonwater-dependent, as a means of improving the overall economic viability of the project, can obtain a license for a Marine Industrial Park. The area devoted to maritime activity must include all pile-supported structures and, generally, must be of a size equal to at least two-thirds of the combined square footage of all filled tidelands and piers on the project site. If this "predominance" criterion is met, the remainder of the site can be utilized for general industrial purposes, for an extended term of up to 65 years.

In the case of a DPA property with no immediate prospect of attracting water-dependent industry, a license may be issued for warehousing, trucking, parking, and other industrial or transportation uses, for up to ten years. A portion of vacant DPA sites (generally 25%) may also be licensed for a broad range of industrial or commercial uses and for a term of sufficient length to finance capital improvements (up to 30 years), as a means of sustaining a higher level of economic activity on the site than would be possible through temporary use alone. To qualify, a project must provide direct economic or operational support to water-dependent industrial use in the DPA, to an extent that adequately compensates for the reduced amount of tidelands on the project site that will be available for port development purposes over the license term. Such development is classified as a Supporting DPA Use project.

### Determination of DPA Boundaries

CZM follows a straightforward procedure when determining whether a specific working

waterfront should be earmarked as a DPA. The procedure is divided into two basic phases:

- A study phase, which includes solicitation of informal public input, fact-finding by CZM staff in consultation with other state agencies and municipal representatives, and issuance of a written report with findings and a proposed designation action.
- A decision phase, consisting of further solicitation of public input through formal hearings and a comment period, followed by issuance of a final decision and map amendment.

### Approval of DPA Master Plans

A DPA Master Plan is defined as "the component of a municipal harbor plan pertaining to lands and waters of a DPA within the municipality". Because a comprehensive harbor plan can be developed in phases corresponding to various segments of the harbor planning area, the effect of this definition is to allow a master plan for a DPA to be reviewed and approved as a separate entity. In fact, in the case of larger DPAs that can be divided into coherent subdistricts for planning purposes, plans for the respective segments also can be reviewed and approved in separate phases as the overall DPA master plan evolves over time. Procedures governing review and approval of DPA Master Plans are identical to those applicable to municipal harbor plans in general. Regarding content, a DPA master plan must comply with a set of universal standards governing consistency with CZM Policies and Planning Guidelines, compatibility with the plans and projects of other state agencies, and consistency with state tidelands policy objectives as set forth in the waterways regulations of DEP. The latter standard articulates the policy objectives that pertain to DPAs and includes the following set of specific approval requirements:

- The plan must ensure that an extensive amount of the total DPA land area in close proximity to the water will be reserved for water-dependent industrial use; within the reserved area, temporary uses are also allowed if there is no immediate prospect for maritime development.
- The plan must include a municipal commitment to control land development in the area surrounding the DPA so that appropriate separation can be achieved between port properties and community activities that tend to be intolerant of industrial operations; on the other hand, in cases where it is impossible to buffer existing residential areas from undue impacts, the plan may specify reasonable limitations on uses occurring within the DPA as well.
- The plan must include a strategy to guide the ongoing promotion of water-dependent industrial use by appropriate government agencies.
- The plan must set forth reasonable arrangements to ensure that structures are not

built or altered which cannot subsequently be removed or converted to water-dependent industrial use with relative ease, and that nonwater-dependent use does not occur in spaces or facilities with attributes that are of primary importance in attracting water-dependent industry to the site.

- The plan must ensure that commercial uses and any accessory uses thereto will not, as a general rule, occupy more than 25% of the total DPA land area covered by the master plan; on the other hand, there is no upper limit on the allowable area for general industrial or transportation uses, provided such uses otherwise qualify as a Supporting DPA Use or a Temporary Use.
- the plan must specify other appropriate limits on the type, location, density, scale, operation, or other relevant aspects of commercial uses, in order to ensure that such uses will mix compatibly with and not significantly alter the predominantly maritime industrial character of the area.

### **State Authorities**

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 9.00: 401 Water Quality Certification  
314 CMR 15.00: Prevention and Control of Oil Pollution

M.G.L. c.30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 131, §40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Regulations

M.G.L. c. 132A, §11: Self Help Program  
301 CMR 5.00: Self Help

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries regulations

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Siting, Evaluation and Assessment

### **Attachment A to Ports Policy #3**

Water-dependent industry includes a wide range of facilities and activities that are

characteristic of working waterfront districts. The various uses can be grouped into three basic categories – water-borne (maritime) commerce, port operations and marine construction, and waterway-based production:

#### Water-borne Commerce

- Marine terminals and related facilities for the transfer between ship and shore, and the storage of, bulk materials or other goods transported by commercial shipping vessels.
- Facilities associated with commercial passenger vessel operations (e.g. cruise/excursion terminals, water shuttle/taxi docks).
- Commercial fishing and fish processing facilities.
- Facilities for tug boats, barges, dredges, or other vessels involved in port operations and marine construction.

#### Port Operations and Marine Construction

- Boatyards, drydocks, and other facilities related to the construction, serving, maintenance, repair, or storage of vessels or other marine structures.
- Facilities affecting the operational capacity of the DPA, such as structures for navigational safety/law enforcement, shore protection, flood/tide control, and effluent conveyance.
- Dredging, disposal of dredged material, and decontamination/capping/disposal of polluted aquatic sediments.

#### Waterway-based Production

- Manufacturing facilities relying primarily on the bulk receipt or shipment of goods by water-borne transportation.
- Hydroelectric power generating facilities.
- Any other industrial or infrastructure facility that utilizes a waterway for transportation or withdrawal/discharge of large volumes of water, provided that an alternatives analysis has established that the facility cannot be reasonably located or operated away from a waterway location (in the case of energy facilities, the determination of need for waterfront location is made by the Energy Facilities Siting Board).

NOTE: The term water-dependent industrial use does NOT include marinas and other recreational boating facilities.

**PORTS MANAGEMENT PRINCIPLE #1 - Encourage, through technical and financial assistance, expansion of water dependent uses in designated ports and developed harbors, re-development of urban waterfronts, and expansion of visual access.**

In order to accommodate the increasing needs of fishing, shipping and other marine industries, cruise and ferry services, and recreational boating interests, existing Massachusetts ports and harbors will require considerable improvement and expansion of their facilities e.g. docks, piers, bulkheads, ramps, navigational aids, and other harbor works, in addition to dredging. Assistance from state and federal funding sources is usually required to enable municipalities to undertake such improvements.

In addition, by taking advantage of the visual assets of waterfront areas, many coastal communities are undertaking major redevelopment initiatives in formerly deteriorated downtown areas, and require state and federal assistance for joint developments including waterfront parks, housing, retail shops, and restaurants. The mixture of these uses along the waterfront can provide innumerable opportunities to the general public for visual and physical access to the waterfront and are therefore encouraged by CZM, provided they do not conflict with port operations. In conjunction with such renewal efforts, physical measures that provide views of marine dependent activities, and port operations in general, are particularly supported by CZM since these activities have significant educational and interest value as integral elements of the coast's visual resources. Such measures are also in keeping with EOEPA policy on community preservation, especially in cities and towns with a traditionally strong seaport identity.

In 1996, the Commonwealth of Massachusetts passed a Seaport Bond bill, which is designed to fund port and harbor infrastructure improvements. CZM participates in the development and implementation of spending priorities for these funds. CZM supports funding from state and federal sources when requested by coastal municipalities for projects consistent with CZM policies. In addition, technical assistance from CZM is available on a day-to-day basis to provide help in analyzing and resolving port and harbor development problems.

## **PUBLIC ACCESS**

It is CZM's intent to promote, maintain and improve efforts to help the public get to and enjoy the coast. Currently, CZM implements the following policy on public recreation sites and Management Principles to achieve this objective.

### **PUBLIC ACCESS POLICY #1 - Ensure that the adverse impacts of developments proposed near existing public recreation sites are minimized.**

Existing recreation sites are extremely valuable. Demand for recreation is currently unfulfilled, the availability and cost of land precludes the acquisition of many new sites, and high quality recreation sites can stimulate and serve as an economic benefit to new development.

Development and projects near recreation sites, either onshore or offshore, can create adverse environmental impacts, which can degrade the quality of the sites. Examples of such impacts are: increased traffic congestion on access roads; obstruction or limiting of public access; water pollution; and degradation of the recreation experience through change in site character, air pollution, and noise. These impacts can be mitigated by site planning and design measures, which provide setbacks and buffer zones and control water pollution, noise impacts, erosion and sedimentation, and aesthetic impacts.

### **Implementation and Federal Consistency Review**

This policy will be implemented similarly to Protected Areas Policy #3 - Historic Districts (including the definition of "near") through review of publicly funded projects and private projects requiring both a state permit and a review under the Massachusetts Environmental Policy Act.

Where impacts cannot be avoided through exercise of this review process, state purchase of easements or development rights or "land swaps" will be considered to bring about the desired results.

This policy will be implemented through the provisions of the following statutes and regulations:

### **State Authorities**

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c.91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

Because some existing coastal recreation sites are underutilized and/ or badly distributed, or because resistance by coastal communities to an increase in recreation on the coast is often based on undesirable auto traffic impacts, CZM believes that solving transportation access problems and providing linkages between recreation sites should be given highest priority among measures to improve coastal recreation opportunities. Second priority should be given to increasing the use of existing sites through better management and maintenance. Third priority should be given to the physical expansion of existing public facilities by public acquisition of new sites in areas of high need. Finally, technical assistance should be made available to private recreation developers, whose developments are needed along with public projects to increase public access to the shoreline. The following four Management Principles have been developed to reflect these priorities.

**PUBLIC ACCESS MANAGEMENT PRINCIPLE #1 - Improve public access to coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation. Link existing coastal recreation sites to each other or to nearby coastal inland facilities via trails for bicyclists, hikers, and equestrians, and via rivers for boaters.**

CZM will support access improvements, both demonstration and permanent solutions, to existing recreation areas where increased use can be sustained without degradation of significant resource areas cited in Habitat Policy #1 when:

- Existing transportation is inadequate, especially where there are traffic problems or related environmental impacts;
- The area is state or federally owned, since potential impacts from increased use can be more easily managed on public land;
- The area is underutilized based on a ratio of parking to recreational amenities and adequate public facilities are or can be made available to support the increased use;
- Benefits from public transportation to recreation might spill over into increased town commerce and tourism; or
- Public transportation investments can service many recreation areas near each other.

CZM will consult with the Executive Office of Transportation and Construction, its constituent agencies, regional planning agencies, transit authorities, and other relevant transportation entities, in the transportation planning process. Through agreement with EOTC, CZM will be given the opportunity to review projects proposed in the state's 3-5 year Transportation Improvement Plan (TIP) and its Annual Element (AE) and to propose needed

improvements to recreational areas.

### **State Programs**

M.G.L. c. 21, §17A: Public Access Board

M.G.L. c. 28: Metropolitan District Commission

M.G.L. c. 132A: Public Recreation Areas Outside of the Metropolitan Parks District

M.G.L. c. 132A, §11: Self Help Program  
301 CMR 5.00: Self Help Regulations

Transportation and Bikeway Programs of EOTC, DPW, MBTA

**PUBLIC ACCESS MANAGEMENT PRINCIPLE #2 - Increase capacity of existing recreation areas by facilitating multiple use and by improving management, maintenance and public support facilities. Resolve conflicting uses whenever possible through improved management rather than through exclusion of uses.**

Many recreation sites, if managed more efficiently, could accommodate more and different uses without much change in physical impacts. CZM intends to promote more efficient recreational use when:

- Opportunities for site expansion are limited.
- The operational aspects of activities do not conflict.
- Improved management and maintenance could control operational conflicts between uses.
- Recreational activities are seasonal, thereby allowing sequencing of different uses.
- Recreational use of non-recreational areas can be accommodated on weekends.
- Improvements in water quality provide expanded opportunities for water contact sports, there is adequate access for additional uses to benefit from such improvements, and resources are capable of supporting increased use without degradation.

In order to maximize benefits which can result from more efficient use of existing

recreation sites, CZM will (a) seek and provide technical assistance to design areas for multiple use and (b) ensure that funds for maintenance are made available and used effectively to work with other state, federal and local agencies whose programs provide opportunities for multiple use recreation (e.g., fishing, walkways on bridges over estuaries, launching ramps on roads which abut water, public walkways in urban renewal areas). If federal and state sources are found to be inadequate to provide necessary funds for maintenance, CZM will support efforts by the Department of Environmental Management and local officials to develop pricing schemes for public recreation that produce revenues sufficient to cover operating expenses.

### **State Programs**

M.G.L. c. 21: Department of Environmental Management

M.G.L. c. 21, § 17A: Public Access Board

M.G.L. c. 21A, § 8: Department of Fisheries, Wildlife, and Environmental Law Enforcement

M.G.L. c. 28: Metropolitan District Commission

M.G.L. c. 132A, § 11: Self Help Program  
301 CMR 5.00: Self Help and Urban Self Help Programs

### **PUBLIC ACCESS MANAGEMENT PRINCIPLE #3 - Provide technical assistance to developers of private recreational facilities and sites that increase public access to the shoreline.**

Demand for the kinds of recreation experiences enjoyed on the coast is high; the facilities and sites required to provide these experiences are coastally dependent. Many of the facilities have adverse impacts on the marine environment. Yet, if Massachusetts is to help the public to enjoy the benefits of a productive marine environment and visually pleasing coastal zone, both public and private means of securing general access to the shore should be encouraged.

CZM's Habitat Policies specifically exempt certain types and amounts of recreation facilities from restrictions placed on salt marshes, dune areas, sandy beaches, and barrier beaches. For example, the construction of boat ramps is permitted in some of these significant resource areas, provided associated parking facilities are built at higher elevations in less sensitive areas away from the waterfront. Marinas are also permitted, provided their wharves or piers are built on pilings, allowing the free flow of the tide and the maintenance of existing circulation.

Ensuring construction will minimize adverse environmental impacts will require

sophisticated planning and design by private developers. To facilitate this process, CZM from time to time will prepare guidance documents to assist private developers in designing, constructing, and operating marinas, beaches, boat ramps, and other recreational facilities consistent with CZM's Habitat, Coastal Hazards, Protected Areas, and other relevant Policies. CZM will also offer technical assistance to municipalities to identify appropriate boating facility sites, develop harbor master plans, or provide other incentives to encourage private boating facility development.

#### Recently Published Technical Assistance Documents

*Guidelines for Barrier Beach Management in Massachusetts*

*Massachusetts Clean Marina Guide: Strategies to Reduce Environmental Impacts*

*ACEC Stewardship Guide*

**PUBLIC ACCESS MANAGEMENT PRINCIPLE #4 - Expand existing recreation facilities and acquire and develop new public areas for coastal recreational activities. Give highest priority to expansions or new acquisitions in regions of high need or limited site availability. Assure that both transportation access and the recreational facilities are compatible with social and environmental characteristics of surrounding communities.**

Every region of the Massachusetts coast is deficient in various types of recreation. Often areas with limited public recreational amenities are the same as those where high costs of acquisition, development and maintenance limit opportunities for additional recreation. As indicated above, CZM's first priority is to improve transportation to and maintenance of existing facilities. Where such improvements would not be sufficient to satisfy recreation demand with areas of high need, acquisition of new land to expand existing sites will be necessary. Although not a primary source of funds for such acquisition, CZM can play a role in facilitating and coordinating the efforts of other EOEAs with financial resources available for the purchase of shorelands and other coastal properties.

High need areas are defined in the site evaluation scheme developed by the U.S. Bureau of Outdoor Recreation for the Land and Water Conservation Fund used for recreation purchases. Generally, the evaluation favors areas with high population density, low recreation land area, low financial ability to make purchases, and above all, the quality of the proposed site and project.

Within regions of high need, CZM favors expansion of existing areas when:

- Undeveloped areas abutting or near existing recreation sites are suitable for expansion.

- Existing sites are over-utilized and there is no nearby substitute that might shift demand for the activity.
- Other public improvements have been made or are proposed on/near existing recreation sites; for example, where state or federal funding has been used to slow or prevent erosion of beaches.
- Access, including transit, roads and parking, is sufficient or will be sufficient subsequent to implementation of transportation improvements under Public Access Management Principle #1.

The acquisition of completely new sites is a complex process in all areas of the Massachusetts coastal zone: in urban areas there is usually not adequate land or conditions suitable for new sites; in suburban areas community opposition can be high because the residential character can be severely impacted by increases in traffic, people and ancillary services; and in rural areas the recreation development must be particularly sensitive to environmental constraints. However, after transportation, expansion and maintenance policies have been implemented, sites must still be acquired in order to satisfy the growing demand for recreation.

In recognition of such concerns, extensive consultation among affected communities and relevant state agencies will be needed prior to acquisition of any new sites in order to discuss and resolve the following issues:

The need for the acquisition.

Potential traffic and environmental impacts.

Potential social and economic impacts on the surrounding community(ies).

Possible alternatives, including expansion of other existing sites; acquisition of smaller dispersed sites in conjunction with trails; or acquisition of large sites in other locations.

Funding of site expansions will generally be considered a higher priority than new acquisitions. Expansions are a higher priority because the detrimental impacts associated with the expansion will generally be less than disturbing previously untouched areas. However, such expansions must be consistent with policies of this plan relating to protection of the marine environment.

One mechanism for expanding recreational opportunities is the purchase of trail easements, which will be given a high priority under Section 315 funds of the Coastal Zone

Management Act, if available. CZM will also solicit aid from the Massachusetts Highway Department to make improvements where such trails are along side roads, over ridges, etc., and from DEM, the Metropolitan District Commission, the Public Access Board, or communities who will manage or share the benefits of the proposed trails. Trails should be developed in conjunction with either designated or potentially designated easements, such as scenic roads or rivers and Seapaths for strolling on tidal flats, which should be concomitantly implemented. The uses of such trails should be compatible with the intent of the designation.

Another means of developing new recreation sites is the disposal of surplus federal properties that could be utilized for recreation purposes. However, prior to acquisition, site specific analyses of environmental, economic, and social constraints would be conducted to determine the appropriate form of recreational use and development that should occur.

### **State Programs**

M.G.L. c. 21: Department of Environmental Management

M.G.L. c. 21, § 17A: Public Access Board

M.G.L. c. 21A, § 8: Department of Fisheries, Wildlife, and Environmental Law Enforcement

M.G.L. c. 28: Metropolitan District Commission

M.G.L. c. 132A, §§ 1 and 3: Seapath Program

M.G.L. c. 132A, § 11: Self Help Program

301 CMR 5.00: Self Help and Urban Self Help Programs

## **ENERGY**

CZM's objective is to ensure that the development and maintenance of energy resources are completed with minimal displacement of water-dependent industry and by the least environmentally damaging means practicable. CZM has developed a policy regarding placement of energy facilities and a Management Principle addressing energy conservation to achieve this objective.

**ENERGY POLICY #1 - For coastally dependent energy facilities, assess siting in alternative coastal locations. For non-coastally dependent energy facilities, assess siting in areas outside of the coastal zone. Weigh the environmental and safety impacts of locating proposed energy facilities at alternative sites.**

Energy facilities serve important public and national interest needs. An energy facility, on one level, is like any other major development project and may entail, for example, dredging or filling, waste discharge, increased run-off, thermal discharge, and fisheries impacts. In this regard all of the CZM policies are applicable to the development of energy resources in the coastal zone. Energy facilities are also unique because of the magnitude of impacts that they may generate and land that they may consume and because adequate provision of energy is in the national interest.

The state's Energy Facilities Siting Board is principally responsible for implementing this policy for facilities other than generating facilities consistent with its statutory responsibilities. For generating facilities, the Board is responsible for evaluating an applicant's site selection process, and may, if requested by CZM or the applicant, evaluate an alternative site in order to efficiently administer a CZM alternative site review. The Board assesses the following factors in relation to proposed energy facilities:

Air, water resource, land use (including relevant habitat, protected areas, port and harbor infrastructure, and public access), visual, noise, solid waste, wetlands, radiation, and (for generating facilities only) cumulative health impacts of facility proposals associated with the use of the proposed and any alternative sites.

For generating facilities, the cost of environmental mitigation for facility proposals; for other facilities, the need for, cost of, and reliability effects of facility proposals, including whether the proposed facility can optimize use of existing delivery, distribution, and transmission networks.

Furthermore, if a facility is proposed for siting in an Area of Critical Environmental Concern (ACEC), prime consideration will be given to environmental impact in evaluating the facility.

If a proposed facility is coastally dependent, as defined below, CZM may recommend or an applicant may request that the Board review at least one alternative coastal site. If a proposed

facility is not coastally dependent, CZM may recommend or an applicant may request that the Board *review* at least one inland site. In the case of a proposed cogeneration facility, CZM has determined that an applicant need not propose alternative sites if the facility proposed is to provide process steam to an existing industrial plant (as well as produce electricity) and is to be sited within the property boundaries of that plant.

Coastally dependent energy facilities are facilities that:

Utilize the indigenous energy resources of the coastal zone.

Serve as a transfer point between ocean and land.

Transmit or transport energy or energy sources from a transfer point or other energy facility located in the coastal zone to an inland or other coastal location.

Store energy or energy sources necessary for trans-shipment from the ocean, for surge storage, or to supply coastal energy facilities and maritime industries.

Facilities that do not meet these criteria are not coastally dependent.

Based on this definition, energy facilities are identified below as being coastally dependent or not. Additional factors to be considered in evaluating such facilities are also noted.

Oil Terminals are coastally dependent facilities.

Additional factors that may be evaluated when considering alternative sites include:

Impacts of any new dredging that may be required at the proposed site versus the use of alternative sites that may not require new dredging.

Accessibility of proposed alternatives to oil distribution pipelines.

Determination if the need for the proposed facility can be met by using existing terminal capacity or space in port areas, if either is available for use by the applicant.

Oil Tank Farms may be coastally dependent facilities if they include:

Facilities used for storage of bunker fuel and fuel used by oil fired electric generating plants located on the coast.

Facilities used to store oil for transshipment by coastal tankers and barges.

Surge oil storage at oil terminals.

Other oil storage facilities are not coastally dependent.

Additional factors that may be evaluated when considering alternative sites include:

- Impacts associated with tanker truck traffic, if applicable.
- Accessibility to pipelines for receipt of oil.

Gas Facilities that are coastally dependent include:

- Facilities that rely on cryogenic pipelines to transfer gas or feed stocks from ship to shore-side storage.

Facilities that are not coastally dependent include:

- Facilities fed by natural gas pipelines, tanker truck, or rail and gas processing facilities, cryogenic storage facilities.

Additional factors considered when evaluating alternative sites include:

- Assessment of the risks to public safety, including the potential magnitude of danger and size of populations affected.
- Evaluation of the size of available buffer zones between the proposed facility and other land or water uses.

Electric Generating Facilities are not coastally dependent, except for facilities that use ocean thermal, wave, or tidal power to generate electricity, or for qualifying expansion of existing facilities (see below).

Additional factors considered when evaluating site alternatives include:

- Impacts of transmission line corridors that may be required at each alternative site.
- Evaluation of alternatives to "once through" cooling systems.
- Availability of cleanest fuels.

Refineries are not coastally dependent.

Additional factors considered when evaluating site alternatives:

- Acreage allotted for a buffer zone.
- Available alternatives to “once through” cooling systems.
- Impacts associated with the generation of any hazardous wastes.

Transmission Lines and Pipelines are coastally dependent where transmitting or transporting energy to, from, or within the coastal zone.

Additional factors considered when evaluating site alternatives:

- Environmental impacts of transmission line and pipeline corridor construction and maintenance.
- Risks to public safety, including the potential magnitude of danger and size of populations affected.
- Environmental impacts of potential spills, leaks, and ruptures of pipelines.
- Impact of proposed pipeline on existing coastal infrastructure such as shipping lanes, cables, pipelines, and tunnels.

Expansion of Existing Energy Facilities Located In or Affecting the Coastal Zone may be coastally dependent if:

- The existing and expanded facility are dependent on existing infrastructure such as fuel delivery systems and transmission lines that are currently located in the coastal zone.
- All new facility and ancillary construction (including but not limited to transmission lines, fuel delivery systems, and traffic systems) are fully described, and impacts to the land and water resources and uses of the Massachusetts coastal zone are fully assessed, avoided, minimized, and mitigated.
- In keeping with E.O. 385 Planning for Growth, the effects of the proposed additional energy capacity on residential and commercial growth are described.

Renewable Energy Generating Sources - By December 31, 2003, as a result of the 1997 Act relative to restructuring the electric utility industry, power retailers will have to demonstrate that a minimum of one percent of energy sales to Commonwealth customers is from new renewable sources. This percentage will increase by one half of one percent per year through

2009, with further required increases possible by determination of the Massachusetts Department of Energy Resources. Renewable energy generating sources are defined as solar photovoltaic or solar thermal electric energy, wind, ocean thermal, wave or tidal, fuel cells using renewable fuels, landfill gas, waste-to-energy which is a component of conventional municipal solid waste plant technology, naturally flowing water and hydroelectric, low emission, advanced biomass power conversion technologies such as gasification using such biomass fuels as wood, agricultural, or food wastes, energy crops, biogas, biodiesel, or organic refuse derived fuel. Waste-to-energy and hydroelectric sources are not considered new renewable sources.

Ocean thermal, wave or tidal energy sources are coastally dependent. Other technologies, such as wind power generation, may be determined to be coastally dependent based on the nature of the specific project proposal.

### **Implementation and Federal Consistency Review**

CZM implements this policy through inclusion of its policies in the Energy Facilities Siting Board review and through federal consistency review of energy projects proposed in the coastal zone. Federal consistency review of energy projects is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Siting Energy Facilities: Massachusetts has created a unique state agency - the Energy Facilities Siting Board (EFSB) - for reviewing and approving energy facilities and sites. The EFSB has incorporated the above policy and considerations in its review and approval process. The meshing of CZM policies with the EFSB review and approval processes results in a four step procedure to be followed in assessing and approving sites for energy facilities, as outlined below:

#### **Step 1 - Siting Energy Facilities in ACECs and Restricted Wetlands:**

In restricted wetlands only certain energy facility components (transmission lines, underground utility lines, and cooling water intakes and outfall structures) will be permitted, depending on the type of wetland that has been restricted under M.G.L. c. 130, § 105. Furthermore, the EFSB has agreed to give prime consideration to the environmental impacts of siting facilities in Areas of Critical Environmental Concern (see Protected Areas Policy #1). Also, the Massachusetts Ocean Sanctuaries Act (M.G.L. c. 132A, §§ 12A-16F, 18), which encompasses coastal waters of highest water quality and the preponderance of offshore shellfish beds and traditional commercial and sports fishing grounds, requires state agencies, including the EFSB, to give special cognizance to the care and protection of the sanctuaries in siting energy facilities.

#### **Step 2 - Evaluating Energy Reliability and Site Suitability**

The EFSB has a statutory obligation to ensure a reliable energy supply for the

Commonwealth with a minimum impact on the environment at the lowest possible cost. The Board reviews the need for, cost of, and environmental impacts of proposals to construct transmission lines, natural gas pipelines, facilities for the manufacture and storage of gas, and oil facilities. In its review of generating facilities, the Board reviews analyses provided by the applicants of: environmental impacts of the proposed facility, the cost of environmental mitigation, the process used to select the facility site, and the consistency of the proposed facility with the Commonwealth's environmental, health and energy policies. In its review of non-generating facilities, the Board reviews analyses provided by the applicant of: the need for the proposed facility, alternatives to the proposed facility, including other methods of generating, manufacturing or storing gas or electricity, strategies for promoting energy conservation or for modifying load curves, other sources of providing energy, the alternative of not providing additional power, oil or gas; and the consistency of the facility with policies of the Commonwealth or the federal government. Once the need for additional energy is established, and approval given to the way (i.e., the kind of facility) in which the need should be met, the Board examines alternative sites for the approved facility type. Through this comprehensive examination and review power, the Board determines whether to approve an applicant's facility proposal or notice of intention.

Among the findings which the EFSB must make in approving a facility proposal or notice of intention, are that the facility plans are consistent with current health, environmental protection and resource use policies of the Commonwealth and consistent with the policy of providing a reliable energy supply, at lowest cost and minimum environmental impact. In making these environmental findings, the Board will use the CZM Policies as adopted by the Secretary of Environmental Affairs by M.G.L. c. 21A regulations, as an expression of current health, environmental protection, and resource use policies of the Commonwealth. Energy Policy #1 specifies which kinds of energy facilities are coastally dependent and therefore must be accommodated in the coastal zone and, as applicable, indicates what kinds of alternative sites should be considered by the Board. This CZM policy ensures that reasonable alternatives are considered and that sites are avoided which could lead to substantial harm to the most valued areas of the coastal zone. Other CZM policies will be used by the Board to conduct its evaluation of environmental impacts on proposed sites as part of its statutory charge to provide a reliable energy supply with minimum environmental impact at lowest cost. In this evaluation, CZM policies that may be applicable to privately funded energy facilities include Habitat, Water Quality, Protected Areas, Port and Harbor Infrastructure, Ocean Resources, and Public Access Policies.

### Step 3 - State and Local Permitting and Licensing

Once the Board approves a facility and site, the applicant must obtain all required permits and approvals from state and local agencies. Agencies of the Executive Office of Environmental Affairs have regulatory responsibilities over specific resources such as air, water, ocean sanctuaries, wetlands protection, and tidelands. Local regulatory agencies have the responsibility to review the site and facility for conformance to local zoning.

#### Step 4 - Appeals to EFSB

Since providing energy is a vital public need, and energy facilities provide widespread rather than local benefit (often in the national interest), the Massachusetts energy facility siting procedures provide for an appeal process to ensure that the results of the third step of the procedure do not unreasonably prevent the construction of an EFSB approved energy facility at an approved site. This fourth step is triggered by petition from the energy facility developer to the EFSB for issuance of a Certificate of Environmental Impact and Public Need on the grounds that a state or local agency has denied a permit or taken an action which has imposed burdensome conditions, caused undue delays, or otherwise unreasonably conditioned the construction of an EFSB approved facility at an approved site. If after reviewing the petition, the Board makes an affirmative finding, the Certificate, with whatever conditions it may include, overrides the state or local permit or license in question.

Energy Project Review - Due to the four-step process of energy facility approval at the state level and the dissimilar jurisdiction of certain federal agencies, the federal consistency process for energy facilities is complex. For permits from the Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission (NRC), CZM will issue its concurrence after facility approval because of the similarity of jurisdiction of these agencies with the Board. However, the scope of the concurrence for FERC and NRC permits is limited to those siting or financial matters actually involved in the EFSB approval or under the exclusive jurisdiction of federal agencies. This limited concurrence does not preclude environmental analysis by EOEAs when licenses or permits are ultimately sought, nor does it stand as a CZM concurrence for purposes of such agency licensing or EFSB issuance of a Certificate of Environmental Impact and Public Need.

For all energy facilities, once all EOEAs permits are granted, CZM will complete its federal consistency review. Should an override from the EFSB be sought, on grounds other than the denial or imposition of burdensome conditions by an EOEAs agency, no further CZM concurrence is needed. Should a Certificate of Environmental Impact and Public Need be sought on the basis of the denial or imposition of burdensome conditions by an EOEAs agency, federal consistency concurrence will be presumed if the EFSB has awarded the Certificate.

#### **State Authorities**

- M.G.L. c. 21, §§ 26-53: Massachusetts Clean Waters Act
- 314 CMR 3.00: Surface Water Discharge Permit Program
- 314 CMR 4.00: Massachusetts Surface Water Quality Standards
- 314 CMR 5.00: Groundwater Discharge Permit Program
- 314 CMR 6.00: Groundwater Quality Standards

314 CMR 7.00: Sewer System Extension and Connection Permit Program  
314 CMR 9.00: 401 Water Quality Certification  
314 CMR 15.00: Oil Pollution Control

M.G.L. c. 21A, § 2(7) Areas of Critical Environmental Concern  
301 CMR 12.00 Areas of Critical Environmental Concern

M.G.L. c. 21C, §§ 4, 6, and M.G.L. c. 21E, § 6: Hazardous Waste Management Act  
310 CMR 30.000: Hazardous Waste Regulations

M.G.L. c. 21E, §§ (3),(d),(f),(g),(m), 3B, 5A, 6, 7, 14,; c. 21A, § 2(28); c. 21C; and c.  
111, § 160: Massachusetts Contingency Plan  
310 CMR 40.0000: Massachusetts Contingency Plan

M.G.L. c. 30, §§ 61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 111, §§ 142A-142N: Massachusetts Clean Air Act  
310 CMR 7.00: Air Pollution Control

M.G.L. c. 130, §§ 1-104: Marine Fisheries  
322 CMR 3.00-12.00, 14.00: Marine Fisheries Regulations

M.G.L. c. 130, § 105: Coastal Wetland Restriction Act  
310 CMR 12.00: Adopting Coastal Wetlands Orders

M.G.L. c. 131, § 40: Wetlands Protection Act  
310 CMR 10.00: Wetlands Protection

M.G.L. c. 131A: Massachusetts Endangered Species Act  
321 CMR 8.00: List of Endangered and Threatened Species  
321 CMR 10.00: Massachusetts Endangered Species Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5:00: Ocean Sanctuaries Regulations

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Site Selection, Evaluation and Assessment

E.O. 385 Planning for Growth

**ENERGY MANAGEMENT PRINCIPLE #1 - Encourage energy conservation and the use of alternative sources such as solar and wind power in order to assist in meeting the energy needs of the Commonwealth.**

CZM strongly endorses efforts to conserve energy and to develop alternative sources of power. To this end, CZM will cooperate with the Massachusetts Office of Energy Resources in implementing the Commonwealth's comprehensive energy conservation program, insofar as it relates to state activities within the coastal zone. In addition, CZM will support alternative energy source demonstration projects that may be proposed in the coastal zone, assuming that the proposed projects have minimal impacts on coastal resources and uses, and will assist in locating appropriate sites and evaluating feasibility studies as appropriate.

**State Programs**

M.G.L. c. 164, §§ 69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Site Selection, Evaluation and Assessment

## OCEAN RESOURCES

It is CZM's goal to manage the multiple uses of the Commonwealth's near and offshore waters to reasonably accommodate compatible uses and minimize or avoid uses and activities which compromise the ecological integrity of ocean resources. This section includes three policies on aquaculture, marine mineral extraction and sand and gravel mining. CZM intends to expand on this group of Ocean Policies as our ocean planning process proceeds in the coming years.

**OCEAN RESOURCES POLICY #1 - Support the development of environmentally sustainable aquaculture, both for commercial and enhancement (public shellfish stocking) purposes. Ensure that the review process regulating aquaculture facility sites (and access routes to those areas) protects ecologically significant resources (salt marshes, dunes, beaches, barrier beaches, and salt ponds) and minimizes adverse impacts upon the coastal and marine environment.**

Managed cultivation of shellfish and crustaceans in Massachusetts originated with the Native Americans and was adopted by the early settlers on Cape Cod. It was not until the 1970's and 1980's, however, that efficient and viable hatchery and grow-out techniques were proven effective on a larger, commercial scale.

CZM produced an Aquaculture Strategic Plan for the state's fledgling aquaculture industry in the fall of 1995. This Plan was produced in the wake of ground fishery collapses in the Northeast, rising interest in alternative sources of protein worldwide, and the immediate need to retain the fishing and fish processing traditions and jobs that had long been an important sector of the local economy. Coincident with the increased interest in aquaculture in Massachusetts was the realization that the regulatory framework, strong traditions of "home rule" (municipal control) and public concern over aquaculture presented daunting obstacles to the development of this nascent industry.

The Strategic Plan with sixty-eight specific recommendations targeted at environmental impacts, regulatory framework and economic development is being implemented by the multiple state agencies with an interest and authority over aquaculture. The Department of Food and Agriculture (DFA) is the lead agency for aquaculture in Massachusetts. In the fall of 1999, CZM and DFA held a one-day workshop focused on measuring the implementation of the Plan's recommendations. The results of the workshop indicate that 80% of the recommendations are either partially or fully implemented.

Today, aquaculture in Massachusetts is estimated to be about a \$10 million dollar industry. The industry is roughly split between inland and marine aquaculture in terms of economic value. The inland industry is comprised primarily of a handful of highly technical recirculating facilities located mainly in the western part of the state. These facilities produce hybrid striped bass, tilapia, trout, and other finfish. The marine aquaculture industry in

Massachusetts mainly produces quahogs (hard clams) and oysters, with small quantities of scallops, soft shell clams, and mussels. The marine aquaculture industry is concentrated on Cape Cod and the Islands with some producers on the South and Southeastern Shores.

Massachusetts is outpaced significantly by Maine and Connecticut in terms of economic value in the Northeast Region. While total U.S. aquaculture production is estimated at \$810 million (in 1993), Massachusetts (at \$10 million) sees only a fraction of that economic activity.

In recent years, the economic realities of the fisheries declines coupled with the economic opportunities associated with increased demand for fish and fish products has resulted in the rapid growth of this industry. While many other states and nations have taken steps to support and manage aquaculture in their jurisdictions, Massachusetts has lagged behind. Currently, there are a myriad of regulatory and legal impediments to the development of a successful aquaculture industry in the Commonwealth. Additionally, user conflicts on Massachusetts' heavily developed coastline present an omnipresent obstacle to aquaculture development.

If not sited and managed appropriately, aquaculture can cause a range of environmental impacts including, but not limited to: the introduction of exotic species into local waters; development in sensitive coastal areas such as salt marshes and eel grass beds; harassment and death to some predators which are attracted to aquaculture sites; localized water quality degradation; and disease introduction. It is incumbent on resource managers as well as industry to mitigate and avoid these impacts while encouraging the development of aquaculture.

Due in large part to the extent of privately held tidelands in the state, much of the shellfish culture in Massachusetts is conducted on private property. Often the culturist is not the owner of the flats under cultivation. The Massachusetts Supreme Judicial Court decision on Pazolt vs. Director of the Division of Marine Fisheries, et al., held that aquaculture (generally defined as placing structures, such as nursery trays or boxes) is not part of the public trust right of fishing and, therefore, aquaculturists must obtain permission from the private upland property owner in order to practice aquaculture in the intertidal zone. This landmark case has resulted in great uncertainty for existing culturists, prospective culturists, shorefront property owners and local municipalities.

## **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to applicants and other public agencies and review of proposed aquaculture projects. Federal consistency review of aquaculture projects is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Strategic Planning: The Aquaculture White Paper and Strategic Plan provides direction for achieving realization of this Policy. The Aquaculture Coordinator, administratively housed at the Department of Food and Agriculture, is charged with implementing the Strategic Plan and

staffing an Aquaculture Coordinating Team and an Aquaculture Advisory Committee.

Harbor Planning: To the extent possible, individual aquaculture facilities should be planned within the context of a harbor or sub-harbor resource management plan. In addition, projects on both the local and state-wide level, will be initiated to proactively plan for the sustainable development of aquaculture. A major component of these plans will be the identification of areas that are (or should be) precluded from aquaculture development due to sensitive habitat, presence of endangered species, user conflicts, high recreational use, wild fishery, and other related factors.

Review of Aquaculture Projects: The following guidelines, derived from relevant state policies and regulations (largely those of CZM, Division of Marine Fisheries (DMF) and DEP) shall apply to all aquaculture projects within state waters or potentially affecting state resources. Existing regulatory processes will provide the means for implementing these guidelines:

- Ensure that aquaculture (and access to such) is not practiced on privately-owned tidelands (or uplands) without the express consent of the owner of record.
- Encourage siting of aquaculture facilities in areas where they will not adversely impact local marine resources or traditional commercial and recreational uses.
- Ensure that upland/upstream activities do not degrade aquaculture facilities and that aquaculture facilities do not degrade downstream water quality or *in situ* benthic ecology.
- Reduce inappropriate institutional, social, technical and economic barriers restricting aquaculture.
- Ensure that environmental review of proposals is comprehensive yet appropriate to the level of proposed risk.
- Utilize technologies and species, which are compatible with local conditions and do not threaten the biological diversity of our marine waters.
- Control predator species using non-lethal measures.
- Encourage the use of best management approaches as a means of avoiding the transmission of disease between cultured and wild populations or stressing cultured and wild species.
- Avoid and minimize hazards to both recreational and commercial navigation by coordinating with designated authorities and marking facilities as appropriate.

- Ensure that facility siting, design and operation do not harm migratory birds, especially rare or declining shorebirds, and marine mammals.

Local Conservation Commissions, Selectmen or City Counselors, Shellfish Officers, the Massachusetts Department of Food and Aquaculture, CZM, the Massachusetts Division of Marine Fisheries, and the Massachusetts Department of Environmental Protection will be the principal agents responsible for implementing this Policy. CZM will develop and provide outreach materials, mapping capabilities, harbor planning assistance and guidance to municipal decision-makers. Compliance with the policy shall be overseen by CZM through its review for federal consistency of applicable federal permits and funding actions.

### **State Authorities**

- M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act
  - 314 CMR 3.00: Surface Water Discharge Permit Program
  - 314 CMR 4.00: Surface Water Quality Standards
  - 314 CMR 5.00: Groundwater Discharge Permit Program
  - 314 CMR 6.00: Groundwater Quality Standards
  - 314 CMR 9.00: 401 Water Quality Certification
  
- M.G.L. c. 21A § 2(7): Areas of Critical Environmental Concern
  - 301 CMR 12.00: ACEC Regulations
  
- M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act
  - 301 CMR 11.00: MEPA Regulations
  
- M.G.L. c.91: Public Waterfront Act
  - 310 CMR 9.00: Waterways Regulations
  
- M.G.L. c. 130, §§1-104: Marine Fisheries
  - 322 CMR 1.00-12.00, 14.00: Marine Fisheries Regulations
  
- M.G.L. c. 131, §40: Wetlands Protection Act
  - 310 CMR 10.00: Wetlands Regulations
  
- M.G.L. c. 131A: Massachusetts Endangered Species Act
  - 321 CMR 8.00: List of Endangered and Threatened Species
  - 321 CMR 10.00: Endangered Species Act Regulations
  
- M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act
  - 302 CMR 5.00: Ocean Sanctuaries Regulations

Pazolt vs. Director of the Division of Marine Fisheries, et al., April 20, 1994,  
Massachusetts Supreme Judicial Court

**OCEAN RESOURCES POLICY #2 - Extraction of marine minerals (other than sand and gravel) will be considered in areas of state jurisdiction, except where prohibited by the Massachusetts Ocean Sanctuaries Act, where and when the protection of fisheries, air and marine water quality, marine resources, navigation and recreation can be assured.**

Although there is not an extensive history of offshore mineral extraction in Massachusetts, there are offshore mineral resources that could become economically or strategically attractive in the future. Any evaluation of offshore mineral extraction must take into consideration minimizing or avoiding impacts to other natural resources, water quality and human uses of marine resources. These resources include traditional fishing grounds and spawning areas, recreational areas and the quality of coastal waters and habitats. Additionally, any examination of offshore extraction of oil or gas resources should be made within the context of an overall energy plan that emphasizes conservation and alternative sources of energy.

Exploratory oil and gas development on George's Bank in the early 1980's raised many concerns, principally fisheries conflicts. Since that exploration did not reveal economically recoverable quantities of either oil or gas, no proposals for exploration or production in either state or federal waters adjacent to Massachusetts have been offered. A series of congressional and Presidential moratoria have kept the North Atlantic Planning Area under moratoria since the early 1980's. The current Presidential moratorium (initiated by President Clinton in 1999) expires in 2012. In recent years, however, increased gas development in Eastern Canada has raised interest in Georges Bank exploration.

Other mineral resources may exist in recoverable amounts offshore from our coast although little exploratory work has been done and no mining has been proposed.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to applicants and other public agencies and review of proposed energy extraction projects. Federal consistency review of mineral extraction projects is carried out in accordance with the state statutes and regulations that are included at the end of this section.

Exploration and Extraction in State Waters: Extraction of marine minerals is precluded by the Ocean Sanctuaries Act in all state waters with the exception of the area between Marshfield and Lynn. Proposals in the area where extraction is allowed will be evaluated for consistency with the state authorities listed below.

Outer Continental Shelf Exploration and Extraction: The 1990 reauthorization of the

Coastal Zone Management Act gave CZM programs the authority to review federal actions in the coastal zone or that affect the land or water resources of the coastal zone. CZM will exercise that authority to review OCS leasing, sale, exploration, and exploitation proposals submitted to the Department of the Interior for consistency with its policies. In addition, proposals for pipelines, pipeline rights-of-way, platforms, transportation, and all associated landside facilities will be reviewed for consistency with these policies. Extraction of oil and gas resources is precluded by the Ocean Sanctuaries Act in all state waters with the exception of an area between Marshfield and Lynn.

CZM will review any proposals for oil and gas exploration and extraction to ensure the following:

- Construction in Areas of Critical Environmental Concern conforms to applicable regulations.
- Risks of environmental harm to fish spawning areas are assessed and minimized.
- Necessary dredging, dredged material disposal, and construction of structures minimize damage to the marine environment.
- Risks of oil and gas spills and possible trajectories are evaluated and appropriate protection measures taken.
- Potential damage to or interference with fishing grounds is evaluated and avoided.
- Placement of structures in geologically hazardous areas is avoided, thereby minimizing such risks as pipeline breakage.
- Disposal of drilling muds and drill cuttings does not damage spawning areas and fishing resources.
- Potential harm to wintering, nesting, or migratory stopover areas for wildlife is assessed and minimized.
- Placement of on-shore support facilities is situated in developed port areas.

Strategic Planning: CZM is involved in national minerals extraction planning through representation on the Minerals Management Service (MMS) Outer Continental Shelf (OCS) Policy Committee. The OCS Policy Committee advises the Secretary of the Interior on matters relating to OCS planning, leasing and exploration. CZM regularly comments on MMS Program Plans and is the lead agency in the state regarding OCS activity.

## State Authorities

M.G.L. c. 21, §§26-53: Massachusetts Clean Waters Act  
314 CMR 3.00: Surface Water Discharge Permit Program  
314 CMR 4.00: Surface Water Quality Standards  
314 CMR 5.00: Groundwater Discharge Permit Program  
314 CMR 6.00: Groundwater Quality Standards  
314 CMR 9.00: 401 Water Quality Certification

M.G.L. c. 21, §§54-58: Mineral Resources Act

M.G.L. c. 21A, §2(7): Areas of Critical Environmental Concern  
301 CMR 12.00: ACEC Regulations

M.G.L. c. 30, §§61-62H: Massachusetts Environmental Policy Act  
301 CMR 11.00: MEPA Regulations

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 111, §§142A-142N: Massachusetts Clean Air Act  
310 CMR 7.00: Air Pollution Control

M.G.L. c. 131A: Massachusetts Endangered Species Act  
321 CMR 8.00: List of Endangered and Threatened Species  
321 CMR 10.00: Endangered Species Act Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

M.G.L. c. 164, §§69G-69S: Manufacture and Sale of Gas and Electricity  
980 CMR 9.00: Coastal Zone Facility Site Selection, Evaluation and Assessment

**OCEAN RESOURCES POLICY #3 - Accommodate offshore sand and gravel mining needs in areas and in ways that will not adversely affect shorelines areas due to alteration of wave direction and dynamics, marine resources and navigation. Mining of sand and gravel, when and where permitted, will be primarily for the purpose of beach nourishment.**

Supplies of sand and gravel in New England are presently adequate to meet demands through the year 2015. Currently all sand and gravel is obtained from land based sources within the region or shipped in from other parts of the U.S. Changing economic pressures will, however merit consideration of alternative sources including use of ocean sand and gravel

resources, both nearshore and offshore. The MMS is developing cooperative agreements with coastal states to extract sand and gravel for shore protection and beach enhancement projects. Massachusetts has not yet had need to pursue this option but may consider it in the future, particularly for beach enhancement/restoration purposes.

Active interaction, or sediment exchange, occurs between an open-ocean beach and the nearshore region out to approximately the 30 foot bathymetric contour under severe storm conditions. This sediment exchange or interaction is necessary in order for the system to maintain a dynamic equilibrium, which in turn provides maximum storm wave energy dissipation. Removing large volumes of material from this zone will act to increase the velocity and height of storm waves, thereby allowing storm waves to break further landward and to adversely impact shoreline areas.

### **Implementation and Federal Consistency Review**

CZM implements this policy through technical assistance to other public agencies, and review of proposed offshore sand and gravel mining. Federal consistency review of offshore sand and gravel mining is carried out in accordance with the state statutes and regulations that are included at the end of this section. CZM has developed a sand and gravel mining guidance document that outlines the regulatory process guiding sand and gravel extraction.

Extraction of sand and gravel, except for the purposes of shore protection or beach restoration, is also prohibited within state Ocean Sanctuaries. Any extraction of sand and gravel from an Ocean Sanctuary must also meet the "public necessity and convenience" standard detailed in the Ocean Sanctuary regulations (302 CMR 5.08 (8)).

Offshore Sand and Gravel Mining: The following locational guidelines will apply to offshore sand and gravel mining activities:

- Mining will be prohibited in marine areas that serve as sources of sediment supply for coastal beaches or in areas where alteration of bottom contours would adversely modify wave and current patterns affecting shoreline areas. Generally, these areas will be landward of the 60 foot contour. Whereas active interaction (sediment exchange) exists between the beach and nearshore out to approximately the 30 foot bathymetric contour under severe storm conditions, mining of areas landward of the 30 foot bathymetric contour would generally be prohibited.
- Mining will be prohibited in areas where contaminated dredge material has been deposited or other hazardous substances have been dumped.
- Mining will be prohibited within a specified distance of submarine cables and pipelines.

- Mining will be prohibited in navigation channels or anchorages unless shipping concerns can be safely accommodated.
- Mining will be prohibited in shellfish, finfish spawning and nursery areas or in other areas of productive sport or commercial fisheries.
- Mining is prohibited in state designated Ocean Sanctuaries, except for the purposes of beach nourishment.

### **State Authorities**

M.G.L. c. 21, §§54-58: Mineral Resources Act

M.G.L. c. 91: Public Waterfront Act  
310 CMR 9.00: Waterways Regulations

M.G.L. c. 132A, §§12A-16F, 18: Ocean Sanctuaries Act  
302 CMR 5.00: Ocean Sanctuaries Regulations

## **GROWTH MANAGEMENT**

The Commonwealth of Massachusetts and the Executive Office of Environmental Affairs have made significant efforts to manage community growth, particularly the effects of growth on environmental resources. Massachusetts is a state where most zoning decisions remain under local control, however, the state can now implement the following management tools: Executive Order 385: Planning for Growth requires that all state-funded infrastructure projects consider the growth impacts of the proposed project; Executive Order 418: Community Development Planning provides funding and state technical assistance for local build-out analyses; and M.G.L. c. 44B: Community Preservation Act allows municipalities to establish a Community Preservation Fund, from which moneys can be spent to preserve open space, protect historic structures, and provide low and moderate income housing.

### **GROWTH MANAGEMENT PRINCIPLE #1 - Encourage, through technical assistance and review of publicly funded development, compatibility of proposed development with local community character.**

The majority of issues relating to the community character of proposed developments are matters of local concern, and can best be handled through local management mechanisms. CZM, however, offers two types of assistance for promoting improved community preservation at the local level. These include:

- Technical assistance to developers and municipalities which provides facility siting recommendations, measures to enhance community preservation and mitigate negative impacts, legal alternatives for managing local community quality, and methods for evaluating potential growth impacts and affected populations.
- Legal assistance, when requested, for the development of local zoning by laws, land use controls, and tax incentives aimed at maintaining and enhancing community character. These include for example; clustered PUD zoning, transfer development rights, density bonuses, performance zoning, design review procedure, local scenic road designation and other measures allowable under various state enabling acts.

In addition, CZM will act in an advisory role by means of existing MEPA and NEPA review processes to suggest how facilities to be constructed with federal or state funds can best be sited and designed to avoid adverse visual impacts. Federal consistency review will be required when federal activities trigger review under CZM's enforceable policies.

### **State Authorities**

M.G.L c. 40, § 15C: Scenic Roads Act

M.G.L. c. 40A: Zoning

M.G.L. c. 44B: Community Preservation Act

E.O. 385: Planning for Growth

E.O. 418: Community Development Planning

**GROWTH MANAGEMENT PRINCIPLE #2 - Ensure that state and federally funded infrastructure projects primarily serve existing developed areas, assigning highest priority to projects that meet the needs of urban and community development centers.**

This management principle focuses on federal and state investment into existing developed areas or adjacent areas suitable for development. Two types of public investment that have major impacts on growth and development are state and federally funded transportation improvements and sewage treatment and collection facilities, discussed separately below.

Transportation Improvements: CZM will coordinate with the federal, state and regional agencies involved in transportation planning to ensure that investments in transportation improvements serve to guide growth in a manner consistent with CZM and EOEA objectives.

Coordination between the Executive Office of Environmental Affairs and EOTC will be achieved by means of the following:

Transportation Systems Planning Review: CZM will review, through the regional transportation plan and the Transportation Improvement Program, all major transportation projects for consistency with the above principle. Major transportation projects are defined for purposes of this policy as those system projects that are above MEPA's mandatory EIR thresholds (301 CMR 11.25: Review Thresholds: Categorical Inclusions) or which:

- Provide new access to an area by means of an entirely new right of way.
- Increase the design capacity of a major transportation system more than 50% beyond its previously existing design capacity.
- Introduce a new transportation mode adding to the capacity of an area's total transportation system by more than 50%.

Compliance of major projects with Growth Management Principle #2 will be judged on the basis of anticipated changes in land development which may result from changes in transportation accessibility, particularly where development would be stimulated in rural,

unserved, or open space lands, or lands with environmental constraints. Projects will be evaluated for conformance with the objectives and findings of other planning efforts in the region for highway projects or systems planning process for non-highway projects.

Where a proposed major project does not require a federal consistency review because no federal funds are involved, the Secretaries of EOE and EOTC will collaborate in resolving any discrepancies with this Principle. If resolution cannot be reached at this level, the Secretaries of EOE and EOTC may then bring the issue to the Governor for similar review.

**Implementation of Other CZM Policies Through the Processes of NEPA and MEPA Reviews:** EOTC and its constituent agencies will consult with CZM as to the measures which must be taken by the transportation agencies to minimize damage to the environment resulting from the impact of transportation improvements on the unique characteristics of the coastal zone. CZM will review both EOTC plans and projects for consistency with other applicable policies of the CZM plan.

CZM may also make recommendations to mitigate adverse visual impacts and improve access to recreation facilities, and provide trail linkups and access to recreational sites in conjunction with transportation improvements.

**Sewage Treatment Facilities and Collection Systems:** CZM will coordinate with federal, state, regional, and local entities responsible for waste treatment facilities planning, construction and permitting to ensure that the location and design of treatment plants and sewage collection facilities encourage the consolidation of growth in existing developed areas. CZM prefers projects that remediate existing water quality problems, that are located on previously developed sites to minimize the environmental impacts of such projects, or treatment facilities that provide regional solutions to water quality problems. In accordance with E.O. 385, treatment facilities that would tend to promote unplanned growth would not be viewed favorably.

## **State Programs**

Massachusetts Executive Office of Transportation and Construction

Massachusetts Department of Public Works

Massachusetts Bay Transportation Authority

Massachusetts Department of Environmental Protection

E.O. 385: Planning for Growth

**GROWTH MANAGEMENT PRINCIPLE #3 - Encourage the revitalization and enhancement of existing development centers in the coastal zone through technical assistance and federal and state financial support for residential, commercial and industrial development.**

Many federal and state programs that provide subsidies for housing development or financial support for commercial and industrial investments are already directed at providing assistance to urban areas and as such serve to stimulate development there. CZM can act as an advocate for Massachusetts coastal towns in the solicitation of federal and state funds, where the funds are to be used consistently with CZM program policies. CZM can be particularly active in this advocacy role in those situations where the proposed uses of funds will:

- Enhance community and regional character by providing for the rehabilitation or adaptive reuse of older structures within existing urban and community development centers.
- Maximize use of existing or upgraded infrastructure investments consistent with the previous policy.
- Not pre-empt maritime dependent uses of waterfront land.

In addition, there are a number of local zoning tools (e.g., cluster zoning, phased growth, and transfer development rights), which can be used to promote growth of existing centers, preserve open space, and prevent sprawl development. CZM technical assistance will be available on request to communities that want to utilize these tools in local land use management.

Finally, CZM staff within EOEAA will be available to cooperate with private developers proposing major developments in the coastal zone that request information on applicable EOEAA programs and permitting requirements or assistance in examining alternative development options for compliance with the CZM program.

**State Programs**

M.G.L. c. 40A: Massachusetts Zoning Act

Massachusetts Division of Housing and Community Development  
Division of Community Services

E.O. 385: Planning for Growth